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GUIDE

Vol. 5 Issue 11



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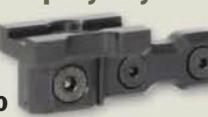
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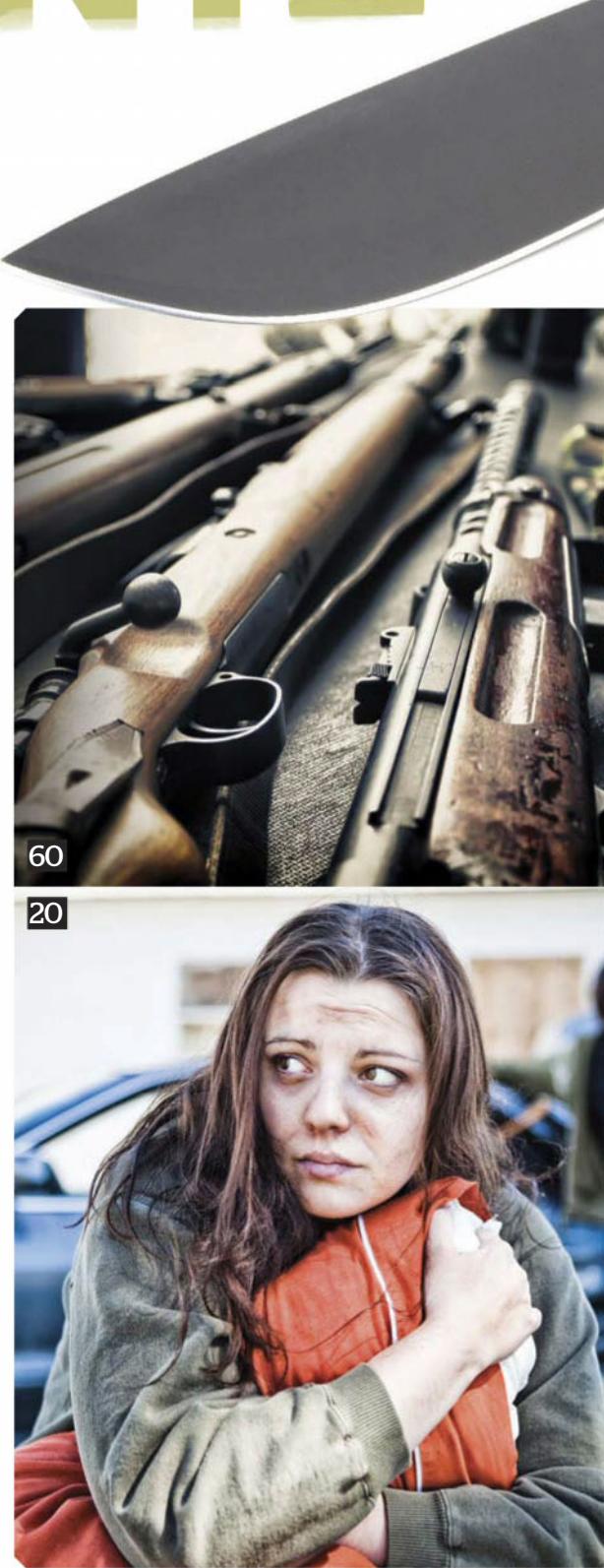
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FIRST WORDS

EVALUATE, PLAN AND EXECUTE TO SURVIVE YOUR WAY

Disaster preparedness is an emotional and complex topic. There is so much information, diverse perspectives and an endless parade of paraphernalia that are supposed to make your challenges simply go away. For many people, this amounts to a huge panic attack-inducing conundrum. To them I say, *Stop drinking from the fire hose, because you'll never swallow all of it ... and it might end you if you try.*

Here's the good news: You don't need *all* of it. Don't get me wrong—you must have good information, practiced skills, a positive attitude, and dependable gear and provisions to prevail in a post-catastrophe world, but chances are you already have your starter kit. That means you just need to determine what you're preparing for, identify what you need, and address that in an orderly manner. You're feeling better already, aren't you?

Whether your goal is surviving nasty winter weather, post-election bedlam or any of the scores of other potential way-of-life-changing events, take some time to think about the "core four" basics you'll need to address the situation. Regardless of what happens, you must have water, shelter, food and fire. The hostile environment you envision will determine the emphasis you put on each of these four, as well as the additional provisions that will address your specific scenario, thereby enabling you to sideline everything else.

Benjamin Franklin is credited for saying, "By failing to prepare, you are preparing to fail." He knew the key to success in any endeavor is to have a well-thought-out plan and then to follow it and make adjustments as necessary. He's also recognized for being the first to make decisions by mapping "pros" and "cons" in two columns on a sheet of paper.

You're probably familiar with this approach and know it can simplify making decisions about what you need to prepare for and what you'll

have to include in your stores.

While the vast majority of Americans have little awareness of threats—and therefore make "zero" plans and preparations for them—most of our *American Survival Guide* readers are already on their way to achieving some level of self-sufficiency.

In this issue, we'll share expertise that will help you improve your chances of survival, prompt you to think before you act and show you some new and proven gear. We'll also provide you with some simple, yet useful, how-tos that will make a difference—regardless of your level of readiness.

Remember that being prepared for the big "what-if" is a highly subjective endeavor. Each person, family and team has unique needs, and every situation has its variables, so bear in mind that you'll probably have to put your own spin on everything you do. That's OK; it means you're in control and ensures that the time, effort and cash you invest in your plan will be the most effective for you that it can be.

While now is a good time to reflect on lessons you've learned from good and bad decisions and plans made in the past, trust that future decisions will be based on that learning, plus the valuable input you'll gather as you seek expert advice and build your plan. Keep your periscope up on local, regional, national and global social, political and weather events to ensure you have the best view of what might be lurking just over your horizon.

Like everything else, executing your plan when the big shoe drops will be up to you. Being a prepper, you've already embraced the adage, "If it is to be, it is up to me."

For me, this saying is the essence of preparedness. Just as it's made up of small words that lead to success, each step of your evaluation, planning and execution is a small, but relentless, step toward your ultimate achievement: your survival in dark times.

— Mike McCourt
Contributing Editor

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EDITORIAL

Doug Jeffrey Editorial Director
Mike McCourt Contributing Editor
Amy Maclean Managing Editor
Henry Z. De Kuyper Senior Staff Photographer

DESIGN

Nadia Sverdlova Design Director

CONTRIBUTORS

Russ Adler, Pascal Baudar, Dana Berner, Reuben Bolieu, Tracy Breen, Will Dabbs, M.D., Michael D'Angona, Sara Dawdy, Steven Dick, John S. Higgs, David Maccar, N.E. MacDougald, Len McDougald, Peter Suciu, Martin Topper

ADVERTISING

Gabe Frimml Ad Sales Director
(714) 200-1930
gfrimml@engagedmediainc.com

Casey Clifford Senior Account Executive
(714) 200-1982

Mark Pack Senior Account Executive
(714) 200-1939

Charles Dorr Account Executive
(714) 200-1931

John Cabral Advertising Design
Gennifer Merriday Advertising Traffic Coordinator
Eric Gomez Advertising Traffic Coordinator

DIRECT MARKETING GROUP
John Bartulin (866) 866-5146 ext. 2746

OPERATIONS

Subroto Mallick Business Analytic Manager
Robert Short IT Manager

Parveen Kumar Newsstand and Circulation Analyst
Shailesh Khandelwal Subscriptions Manager
Alex Mendoza Administrative Assistant
Jeno Torres Administrative Assistant
Victoria Van Vlear Intern Program Manager

EDITORIAL, PRODUCTION & SALES OFFICE

17890 Sky Park Circle, Irvine, CA 92614
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PRODUCTS

NEW

1

C. Crane Pocket Weather Radio

If you're looking for a pocket-sized radio with tabletop radio features, the C. Crane Pocket Radio has you covered. At under 4 ounces, this radio doesn't go light on functionality. Its full complement of radio performance is enhanced by a fine tuner for AM frequencies, a clock, sleep timer, alarm, 55 memory presets, and an adjustable display.

Features

- Receives AM, FM and all seven NOAA weather channels
- Weather Alert interrupts other programming for alerts when activated
- Approximate runtimes: Speaker—80 hours, earbuds—100 hours
- Runs on two AA alkaline or rechargeable NiMh batteries (not included)
- Includes earbuds and belt clip
- Handy 2.5 x 4.25 x 1.0-inch size

MSRP

\$64.99

URL

www.CCrane.com

2

Midland HH50 Weather Radio

When you're on your own, the more advanced warning about threatening weather you can get, the more likely you'll be able to avoid or survive it. Considering all the gear you have strapped to your back, it quickly becomes evident that any opportunity to save a few ounces on essentials should be snapped up. Midland's HH50 Weather Radio might not be much larger than a basic smartphone, but it plays big when you need to know if nasty weather is headed your way.

Features

- Receives all seven NOAA weather channels
- Runs on three AAA alkaline batteries (not included)
- Includes wrist strap and belt clip
- Small, 1.8 x 5.6 x 0.8-inch size is ideal for pack, pocket or purse

MSRP

\$24.99

URL

www.MidlandUSA.com

3

Princeton Tec Helix Basecamp Lantern

The Helix Basecamp's folding legs offer two heights and various orientation angles, and multiple hanging options allow optimal location of the light. The collapsible accordion-style globe is removable to improve performance when used as a dome or spot light. The Basecamp folds down to half its height for transport or storage. The power dial controls light color and output level, and its Lockout prevents accidental activation.

Features

- Adjustable up to 250 Lumens with white Maxbright LED
- Adjustable ultrabright red LEDs
- Run time: eight to 40 hours, depending on the mode
- Weight: 12.6 ounces
- Includes three AA alkaline batteries

MSRP

\$49.95

URL

www.PrincetonTec.com

5

Eton FRX3 Cross Weather Radio

Eton's leadership in emergency preparedness radios has led it to a direct partnership with the American Red Cross and the development of the FRX3 weather radio. Thanks to its four power options, keeping the FRX3 charged and running is not a problem. Its backlit LCD screen displays time, charge and alarm status, and other information.

Features

- Receives AM, FM and all seven NOAA weather channels and Weather Alerts
- Powered by a replaceable NiMh battery that charges with USB, hand crank and solar panel and can use three AAA alkaline batteries (not included)
- 90 seconds of winding provides five to seven minutes of radio or 20 minutes of light
- Charges USB-compatible smartphones and other small devices
- Includes a white LED flashlight and one flashing red LED "find-me" beacon
- Compact 5.9 x 5.8 x 2.6-inch size

MSRP

\$69.99

URL

www.EtonCorp.com

4

CRKT Chanceinhell Survival Machete

Build a hut, clear a path, maybe even paddle a canoe with this beefy machete, because it can take it all in stride. Constructed for hard use on macro tasks, the Chanceinhell is well balanced so you can work with it all day. The sheath can be adjusted for attachment several ways, depending on how you like to make the most of your Chanceinhell.

Features

- Length: OAL is 17.88 inches; blade is 12 inches
- Steel: 65 MN Carbon Steel, HRC: 52-56
- Maximum thickness: .1 inch
- Finish: Matte-black powder coat over bead blast
- Weight: 1 pound, 4 ounces (knife only)
- Handle: Polypropylene core with textured thermoplastic overmold, full tang
- Sheath: Reinforced nylon sheath

MSRP

\$69.99

URL

www.CRK.com

6

Silva Guide 426 Compass

The Silva Guide 426 is an inexpensive and compact sighting compass that's appropriate for any outdoor activity. The lightweight polypropylene baseplate floats, which is a great feature for any water activity. The compact size slips easily into a shirt pocket, and it comes in two colors: orange and graphite.

Features

- 2-degree graduations
- Full-sized sighting mirror with V-sight
- Inch and millimeter scales
- Declination scale
- Lanyard

MSRP

\$23.99

URL

www.SilvaCompass.com



5



3



2



1

4

6



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PRODUCTS

NEW

7

Cobra CXT545

The CXT545 is a compact, high-power radio that is fully waterproof and ready to take on the elements. It has 10 NOAA weather channels built in with NOAA Weather Alert to keep you up to date on important weather information. Cobra's VOX system allows hands-free operation and patented VibrAlert provides a silent alert for incoming calls. An LED flashlight is built into the radio cabinet, providing an always ready light source.

Features

- Two radios with FRS/GMRS 462-467 MHz frequency band
- 22 channels with 121 privacy codes
- Up to 28-mile range
- Uses included rechargeable NiMh batteries or three AA alkaline batteries
- Automatic battery saver circuit extends battery life when not in use

MSRP

\$89.95

URL

www.Cobra.com

8

Olight S1 Baton

The S1 Baton is remarkably bright for its size. The S1 Baton's T6 aluminum body has a stainless steel head and switch binder ring for added durability. Its thermal management safety program drops the high output by 50 percent within one minute of switching the light to "constant on." To mitigate damage from excessive heat, the turbo mode has a limit of one and a half minutes, and the built-in timer allows you to choose from three- or nine-minute auto-off options. Factor in the pocket clip, a lanyard hole and a magnetic tail cap, and the Baton S1 is a lot in a small package.

Features

- Four modes plus strobe, up to 500 Lumens
- IPX8 water resistance
- 1-meter impact resistance
- Length: 2.4 inches
- Weight: 1.06 ounces without battery
- Powered by one CR123A lithium battery
- A6061 T6 aluminum body with Type III anodized finish

MSRP

\$49.95

URL

www.OlightWorld.com

9

Coleman Sportster 533 Dual Fuel Stove

Compact Dual Fuel Technology gives you the option of using Coleman Liquid Fuel or unleaded gasoline. One gallon of Coleman Liquid Fuel lasts as long as 4.5 cylinders of propane, so you can take less fuel with you to save money and packing space. Wind baffles help shield your flame from the wind so that the most heat possible goes into making your meal.

Features

- Fits a 6-inch pan
- Output: 10,000 total BTUs of cooking power
- 1.1 pints of fuel last up to two hours on high
- Band-a-Blu burner for reliable cooking power

MSRP

\$99.99

URL

www.Coleman.com

11

ACR ResQLink PLB 375 GPS

Small and mighty, the ResQLink is a full-powered, GPS-enabled rescue beacon designed for anglers, pilots and back-country sportsmen who operate in remote areas. With three levels of integrated signal technology, the ResQLink quickly and accurately relays your position to a worldwide network of search-and-rescue satellites. A built-in strobe provides visibility during night rescues. To use the ResQLink, simply deploy the antenna, press the power button, and give the unit a clear path to the sky. If you use the unit for a proven rescue, the company will replace it at no charge.

Features

- Onboard, 66-channel GPS
- 406 MHz signal; 121.5 MHz homing capability
- Self-test and GPS test features
- Typical battery performance is 30 hours
- Waterproof tested at 5 meters for 60 minutes; 10 meters for 10 minutes
- Size: 1.3 x 1.9 x 3.9 inches
- Weight: 4.6 ounces
- Battery: Class-2 non-hazmat lithium

MSRP

\$275.95

URL

www.ACRArtex.com

10

SteriPEN Adventurer Opti Water Purifier

Compact and lightweight, the SteriPEN Adventurer Opti Water Purifier uses a revolutionary "eye" to sense water and purifies water in even the coldest conditions. SteriPEN water purifiers meet U.S. Environmental Protection Agency standards for microbiological water purifiers and have been independently tested by the Oregon Health Sciences University and the universities of Arizona and Maine.

Features

- Optical sensor doubles as a convenient LED flashlight
- Retail package includes two non-rechargeable (disposable) CR123 batteries and a neoprene case with belt loop
- Device works with containers with minimum 1.75-inch-diameter opening (i.e., Nalgene wide-mouth bottles)
- One set of CR123 batteries will treat up to 50 liters of water
- UV lamp life: 8,000 treatments
- Small and lightweight, weighing just 3.8 ounces with batteries

MSRP

\$89.95

URL

www.Steripen.com

12

WakaWaka Power & Solar Charger with Flashlight

One of the better portable solar chargers on the market, the WakaWaka Power+ provides up to 150 hours of LED light for when you need to access your tools or electronics in the middle of the night. It's made of 100 percent recycled PC-ABS, making it highly resistant to impact.

Features

- Charge time: Solar—12-24 hours; AC power—six hours
- Battery: 2200 mAh
- Solar panel: 1,050 mWatt; 22 percent efficient
- Smartphone charge time: two hours (average)
- Connectors: Micro-USB in (>0.5A); USB out (>1.5A)
- LED flashlight: Five modes
- Size: 4.76 x 3.07 x .67 inches
- Weight: 7.06 ounces

MSRP

\$79.00

URL

www.us.Waka-Waka.com

11**7****9****12****10****8**

SELF- RELIANCE

CHOOSING BETWEEN COMPLEXITY AND SIMPLICITY

BY N.E. MACDOUGALD

"Any sufficiently advanced technology is indistinguishable from magic."

—Arthur C. Clarke

Self-reliance has numerous aspects, each with many approaches and solutions—which, themselves, ingrain complexity at the very outset of our decision to prepare for an inevitable “event.” Answering even the most basic questions can overwhelm both the neophyte and experienced prepper and can result in hasty decisions or abandonment of a plan.

Our love of gear and the desire for the best we can afford has led to the variety and complexity of the solutions available to us. And, as the developed world becomes more interconnected through global travel, commerce and communication, preppers face even more new options to consider.

UPGRADE OR NOT?

Whether you’re considering the purchase of a tool kit, computer, weapon or vehicle, you’re selecting a system; and engineers and designers go to great lengths to make systems reliable, robust and, ultimately, efficient. One challenge that results is that technology keeps evolving, causing consumers to decide whether to upgrade or be left behind.

This ongoing product innovation often

increases some equipment’s importance and usefulness—but also its complexity and fragility. We need to decide if the added benefit also brings shortcomings that we won’t be able to offset in times of crisis. In addition, keeping current with what’s available in the marketplace requires reading and research, and many people can’t or don’t dedicate the necessary time, opting instead to make choices based on emotion and initial cost.

We self-reliant preppers usually own more tools, gear and spare parts than nonpreppers—and for good reason. We’re practical people who want the ability to fix, modify or build our own equipment, depending on our individual needs. We’re focused on these needs and have opted to go without luxuries to acquire our gear and supplies.

Therefore, it makes sense to make sure your gear, as well as the skills, tools and spares that define your ability to repair or modify it, are compatible.

COMPLEXITY’S BENEFITS AND DRAWBACKS

Utility grids provide the transparent ease that powers all of our daily conveniences. They’re highly complex but save you huge amounts of effort and time every day ... until

they go down. Then, you’re either in the dark or need to activate your backup power grid.

A modern computer with access to the Internet enables you to fetch news and entertainment, helps you operate your home, communicate by e-mail or on social media, apply for a job or keep your business organized, and gives you virtual access to the world.

Of course, you need to periodically upgrade your computer and your skills to make the most of this technology. But, when computers hit a glitch, they can stop you dead in your tracks. If you have hardware and software expertise, you can maintain and repair them. Otherwise, you’re dependent on others to get you back up and running.

Electronic thermal imaging and night-vision devices (NVDs) are excellent force-multipliers and are more affordable than ever; but can they get toasted in a nanosecond during a coronal mass ejection (sun spot)? The answer is, yes—unless you’ve also invested in a method to shield your electronics from such hazards. Can you diagnose and repair a broken NVD? The subject of complexity becomes more, uh, *complicated* when systems depend on subsystems, all of which require expertise





and tools to maintain; and each carries a financial cost, as well.

CONSIDER VEHICLES, FOR EXAMPLE

Vehicles make useful examples of how complexity can save you money—and also cost you money.

A late-model hybrid vehicle can deliver impressive fuel savings and transport you dependably, comfortably and safely, but new car prices are very high. If you're a skilled mechanic with the right tools and gizmos, you might be able to fix your car if it fails. While few can diagnose and fix electronic fuel injection, many can rebuild a carburetor and get a vehicle back on the road.

So, do you opt for a well-maintained older vehicle because it's much cheaper to buy, less dependent on computer controls, more likely to be owner serviceable and more likely to survive an EMP?

A neighbor recently asked for my help to start and maintain his RV. While driving to it, he explained that buyers often specify different components, making each coach slightly different, even if it is manufactured at the same plant by the same team. Each wheeled residence comes with a couple of

manuals—one for general information and one for schematics of the complex electrical system. Each manual is more than a half-inch thick.

When we arrived, he tried to start his RV but didn't even hear a click. Using a volt-ohm meter, I discovered that the two batteries were only half charged. I'd brought heavy-gauge jumper cables, so after a few minutes, we had the big diesel running. Later, we saw smoke coming out of one of the two large, sealed 12-volt batteries, and my neighbor ended up replacing both.

He had recently bought six large 12-volt batteries for the second battery compartment to run his appliances. He showed me pages of schematics that NASA could have produced. He also kept a file about 6 inches thick with receipts and notes about how his lavish RV worked.

While my neighbor was talking about his RV, I began to question the wisdom of complicating matters by integrating one's home and means of mobility into one vehicle. He's not a prepper, so he doesn't consider his coach a bug-out vehicle. (However, I've had a prepper tell me that his RV doubles as one.)

The problem is that an RV's engine or onboard generator problem affects the living quarters because batteries power lights and appliances when the engine is off. One way to avoid this problem is to buy a trailer so that if your tow vehicle dies during a disaster you'll still have a viable shelter while you get the vehicle repaired or buy another one. But if your huge RV dies during a disaster, your vehicle and your shelter are dead in the water.

FIREARMS PLATFORMS

Even small alterations to a semiautomatic rifle can have life-ending results. Trying different ammunition can change the point of impact or can cause a cartridge to stick in the chamber. (Keep in mind that military ammunition specifications differ slightly from those for non-military ammo.) The first problem might require adjusting your sights; the second might take a ramrod to dislodge. And changing elements in the bolt carrier can stop your rifle immediately, thereby ending the rifle's ability to defend you and your family.

➤ A worker demonstrates the huge scale of a turbine in an Idaho hydroelectric power plant. The complexity of such projects is enormous.



GETTY IMAGES/COM/BY: HARALD SUND



➤ *Left:* Stock and commodity exchanges are among the most complex systems in the world. Security and speed mandate complexity.

“ANSWERING EVEN THE MOST BASIC QUESTIONS CAN OVERWHELM BOTH THE NEOPHYTE AND EXPERIENCED PREPPER AND CAN RESULT IN HASTY DECISIONS OR ABANDONMENT OF A PLAN.”

SIMPLICITY'S BENEFITS AND DRAWBACKS

Wilderness camping teaches many things. For example, one high-quality tool (knife, saw, stove or headlamp) beats a low-quality, multi-purpose tool that does nothing particularly well and breaks when you need it most. However, a good-quality, well-designed multi-function tool can save you space, money and weight.

And your mind and body—the ultimate complex system and best tool at your disposal—must be maintained and repaired so that it can perform whatever you ask of it, especially during a crisis. Knowing your limits and learning wilderness emergency medicine enable you to maintain and repair yourself when you're miles from civilization.

As I get older, my desire for more possessions is diminishing. In fact, I enjoy the simplicity that results from discarding unnecessary things. Selling or trading items that you've owned for decades but haven't used in years can be a relief.

Why own gear that you no longer use? Selling items you don't want might enable you to buy something that you need. And, as a result, you might have room enough to park in your garage again!

As I said at the beginning of this article, there are numerous aspects to self-reliance, and you have to decide what's best for your situation. Given the choice, I'll opt for simple systems, because when time is crucial and adrenalin is pumping, simple suits me best.

➤ *Right, top:* A technician works on a mainframe computer for a weather service in Offenbach, Germany.



➤ *Right, bottom:* A surgical team uses computer images to assist them during an operation.

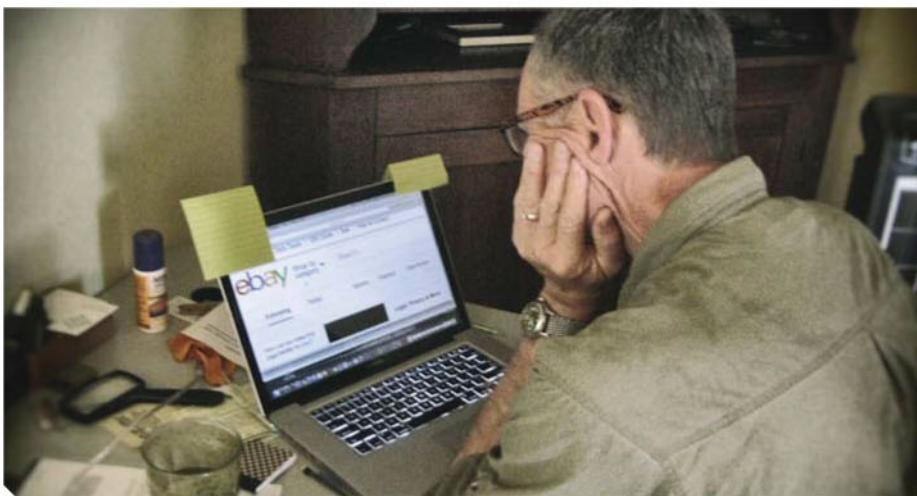
“PART OF THE DEFINITION OF BEING A PREPPER IS TO EMBRACE THE PRINCIPLE THAT RELIABILITY COMES FIRST.”



◀ The author chose a 1997 Dodge 2500 Cummins Turbo Diesel pickup because it has few computers and mechanical—not electronic—fuel injection.



◀ MacDougald does preventive maintenance on his 1997 Dodge 2500 Cummins Turbo Diesel pickup. Note the stout, aftermarket front bumper.



◀ He uses eBay to determine the value of, and to sell, his unnecessary items. Craigslist is also useful for buying, selling and trading.

BOTTOM LINE

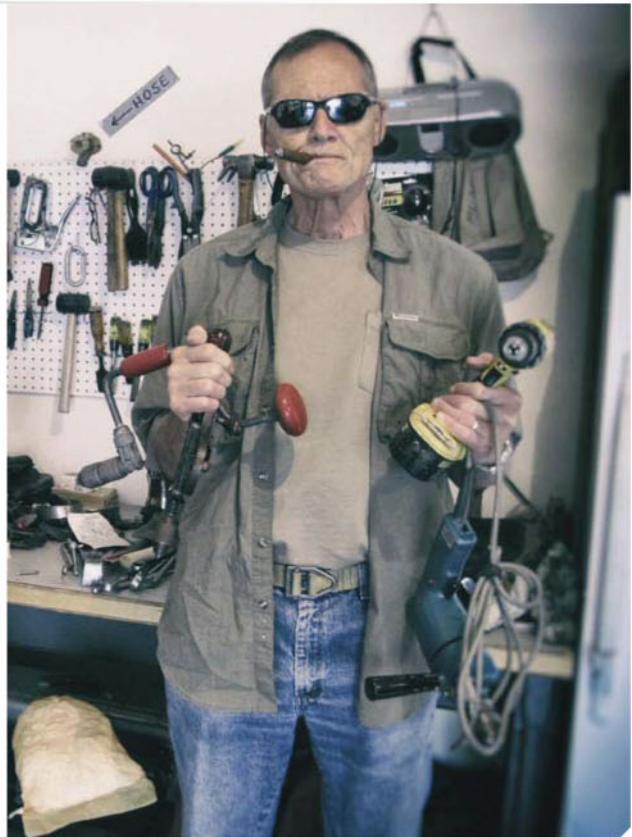
Self-reliance includes having the skills and tools to maintain and repair your gear and equipment. If you can't repair and maintain it, you need to know trusted locals who can do so in case of a disaster. If a critical item cannot be repaired, you'll need a backup or alternative solution.

Relationships with allies (family, friends and other preppers) are also complex systems requiring periodic maintenance and repair. Human interactions can wither or die if not maintained. The fact that eight years ago you and your cousin agreed to provide mutual aid during a disaster hinges on both of your circumstances being the same today. Keeping in touch with allies is critical. Your plan to go to a friend's ranch will be dashed if you discover that she moved and didn't tell you.

In the end, you must know your limits. If you can't troubleshoot and maintain semiautomatic firearms, consider revolvers or bolt-action weapons. If you own one vehicle, spend the time and money to ensure its reliability. Instead of thinking about new tires or a tune-up as expenses, consider them investments. If your computer contains critical data, back it up on a hard drive (a solid-state drive is recommended), thumb drive or CD or print and laminate vital checklists to make them waterproof.

Create plans about places to meet if electronic communication fails. Buy quality camping gear and keep it in serviceable condition. If you're concerned about an EMP, you'll need both power tools and hand tools. A low-quality tent might be fine if you camp only on Memorial Day and Labor Day, but if you're heading for the wilderness to avoid an epidemic, you'll want one that can stand up to everyday use.

Finally, if you have children—who, themselves, are certainly complex systems—create a list of necessities, especially medications. **ASG**



Far left, top: MacDougald prefers semiauto pistols but likes the simplicity of revolvers. This Smith & Wesson revolver with a 5-inch barrel and chambered for .357 Magnum also shoots .38 Special cartridges.

Far left: He uses power tools daily but knows that a coronal mass ejection or an electromagnetic pulse could render them useless. Hand tools are a practical alternative.

Far left, bottom: MacDougald uses a night vision device in dim light.

There Are No Power Outlets Out Here



Made in America

An advertisement for K-TOR portable energy generators. The background shows a vast, open landscape under a blue sky with scattered clouds. In the foreground, there are two K-TOR units. One is a larger, black, rectangular device with a handle and a power cord. The other is a smaller, black, rectangular device with a handle and a power cord, which is connected to a smartphone that is showing a charging icon. The K-TOR logo is prominently displayed in the center of the advertisement, with the tagline "Human Powered Portable Energy Generators" below it. The phone number "802-777-6229" is on the left, and the website "www.k-tor.com" is on the right.

I'LL SURVIVE. WILL YOU?



REGARDLESS OF THE
DISASTER, MAKE SURE
TO PREPARE THE
SURVIVAL BASICS.

BY DANA BENNER



ce storms, floods and hurricanes; the Paris and Brussels bombings and the shootings in San Bernardino. It doesn't matter who you are or where you live, the odds of something disastrous happening are great. It is not a matter of *if*, but *when*.

Whether it is a natural disaster or a man-made one, those who are prepared will survive.

There are plenty of articles being written that deal with a host of survival issues. What I haven't seen are many articles written for the "average Joe." You know—that working dad or mom who wants to keep their family safe. This article is written for you. Because we never know which type of situation we will face, this article will give you a baseline, a place to start.

To survive, you need to be prepared. This preparedness means figuring out what you need to do to keep you and your family alive. Do you stay in your home? Do you get into your vehicle and leave? Is your best option to leave on foot? What kinds

◀ Roads might be impassable. Be prepared to find another way.

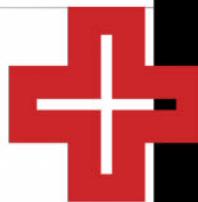


◀ Below: If floods are common in your area, invest in a weather radio and have several escape routes planned before the rains come.

"WHETHER IT IS A NATURAL DISASTER OR A MAN-MADE ONE, THOSE WHO ARE PREPARED WILL SURVIVE."



“NO MATTER THE SITUATION, THE BASICS NEED TO BE MET: FOOD, WATER AND SHELTER.”



of items do you need to keep on hand for all these scenarios? No matter the situation, the basics need to be met: food, water and shelter.

AT HOME

In most cases, the most logical place to be in a survival situation, if at all possible, is your home. Your home is where you will have most of your resources, including food and water. It is also the easiest place to defend from human threats.

Nevertheless, there are some things you need to do—without great expense—to make your home a survival shelter.

Food: In most serious situations, power will be lost. Food in the freezer and refrigerator will also be lost. Consequently, it is wise to have about three months of nonperishable food on hand for each person in your household. We're talking about pre-packaged, freeze-dried meals, canned meats, powdered milk and eggs, etc. Many of these items can be purchased at your grocery or outdoors-related stores. Look for products with long shelf lives (such as those made by Mountain House, Paleo Meals to Go and Werling and Sons).

Water: You can't survive without water. It is needed for sanitary reasons, besides drinking and cooking. In an emergency, there might be no sanitation services, as well as no running water or flushing toilets. Disease could become an issue, so make sure you keep plenty of water on hand.

When stocking up on water, figure out how much you will need for three months—and then double it. Pick up a case of bottled water every time you go grocery shopping, and rotate your stock. Another way to store water is to pick up some plastic water-storage containers that are made specifically for this purpose. (Reliance manufactures containers of various sizes. They are inexpensive and can be found just about anywhere camping gear is sold.)

Tools: One tool you should own is a generator, along with plenty of extra fuel. A generator will allow you to cook, charge cell phones and stay in touch with what is going on.

However, there are a couple of drawbacks to generators. Obviously, they only work as long as you have fuel. Depending on the situation,

MEDICATIONS

Many people forget about preparing their prescription and over-the-counter medications; this is a big mistake! If something does happen, your chances of obtaining medical supplies might be limited—that is, if they exist at all. Doctors' offices will be closed, as will pharmacies. Life-saving medicines, if available, could be subject to black market pricing, with those meds going to the highest bidder.

However, there are ways to avoid problems:

- ◀ Order the largest amounts possible. Most prescription medications can be ordered in 90-day supplies. Get the most you can.
- ◀ Stock up on all over-the-counter medications you take regularly. Take advantage of sales.
- ◀ Make sure you carry your medications in multiple locations. For example, carry some on your person, some in your pack and some in your vehicle. That way, you still have them, even if you get separated from some or all of your gear.



GETTY IMAGES/COM/BY: TODD KEEN



GETTY IMAGES/COM/BY: JENS KOENIG

► *Left:* A prepared person's basement has emergency water, food, propane, a gas mask, flashlight, candles, fire extinguisher and other items for safety, security and peace of mind.

Some of the jars seen in this image are filled with preserved lemons and oranges.

► *Opposite page:* California Surplus Mart, a company based in Garden Grove, has seen a 400 percent increase in disaster survival kit sales since the Japanese quake and tsunami. Company manager

Ovi Lalo says he can't keep up the inventory on emergency food and water, because suppliers are running out.

► *Below:* Lalo displays food and water he keeps with a first aid kit in his car.



GETTY IMAGES/COM/BY: FARHAD J PARSIA



◀ *Left:* A stockpile of dried food, water and bug-out bags. Keep everything together so you can grab items and go quickly.

◀ *Below:* Earthquake-affected evacuees charge their smartphone batteries using emergency solar power panels at a shelter in Mashiki, in the Kumamoto prefecture, on April 17, 2016.

you will probably only have enough fuel for a few days. The other drawback is that generators make noise—and noise sometimes attracts unwanted visitors.

So, what do you do if you run out of fuel and/or don't want to run the generator because of the situation? The answers are pretty simple:

- ▀ Keep a small, propane-fired camp stove on hand. Small bottles of propane go on sale all the time, and they are available everywhere.
- ▀ In addition, keep on hand a battery-powered AM/FM radio, as well as rechargeable batteries.



GETTY IMAGES/COM/BY: KAZUHIRO NOGI



GETTY IMAGES/COM/BY MICHAEL ROBIN CHAVEZ

"IN MOST CASES, THE MOST LOGICAL PLACE TO BE IN A SURVIVAL SITUATION, IF AT ALL POSSIBLE, IS YOUR HOME."

Also invest in some portable solar panels so you can keep cell phones and rechargeable batteries at full power (for example, both SunJack and Bushnell make portable solar panels at reasonable prices).

If the situation continues for any length of time, you might have to defend yourself and your property. Keep a firearm and plenty of ammunition on hand. For me, a 12-gauge shotgun is the perfect firearm for this duty and will do the job, if necessary. Both the shotgun and ammunition are relatively inexpensive.

IN YOUR VEHICLE

What happens if your home becomes unsafe and you have to leave? You need to put as much distance between you and the danger; your vehicle is the logical choice to get that done. If there is time, you can move some things from your home to your vehicle, but if you have to leave quickly, you probably won't have that option.

This means you need to keep some items in your vehicle at all times. Forest fires, floods and chemical weapons wait for no one.

Food: Nonperishable foods that will feed you and your family for at least three days should be kept in your vehicle. Inexpensive storage bins, available almost everywhere, make a perfect way to keep things organized and out of the way.

Water: Keep at least one case of bottled water in your vehicle at all times. If there is time, grab more—or at least one of your plastic water storage cans, and fill it whenever you can.

Tools: Due to space constraints, you will be limited to the tools you can

SOURCES

Bushnell
www.Bushnell.com

Gerber
www.GerberGear.com

Hide-Away
www.HideawayFlasks.com

Lawless Jerky
www.LawlessJerky.com

Mountain House
www.MountainHouse.com

Paleo Meals to Go
www.PaleoMealsToGo.com

Reliance
www.RelianceProducts.com

Sawyer
www.Sawyer.com

Simple Squares
www.SimpleSquares.com

SunJack
www.SunJack.com

The New Primal
www.TheNewPrimal.com

Three Jerks Jerky
www.ThreeJerksJerky.com

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* See The Blazing Hot story in the March 16 issue of ASG magazine

"ALL WATER SOURCES ARE QUESTIONABLE, ESPECIALLY IN A SURVIVAL SITUATION. ANY WATER YOU FIND NEEDS TO BE BOILED, CHEMICALLY TREATED OR FILTERED BEFORE DRINKING."

► Always treat or filter water.



GETTY IMAGES.COM/BY: HAGEPHOTO

► Right: Any water you find needs to be boiled, chemically treated or filtered before drinking. There are many water filtration systems on the market that will fit into your pack.

► Below: When the water gets this high, it might already be too late to get out.

carry. Keep a folding multi-tool in your vehicle's glove compartment. These tools have multiple uses and can get you out of trouble in an emergency. An ax (which can double as a hammer) and a machete are always good to have on hand, as is a folding bow saw, such as the Gerber Freescape Camp Saw. All these tools can help you take care of fallen trees that might block your way. A tarp is always good to keep in your vehicle, because it has multiple uses—not the least of which is extending the shelter capabilities of your vehicle. With all these things already



GETTY IMAGES.COM/BY: MVALCOMA



GETTY IMAGES.COM/BY: RAHOUSEN1

► Near left: Emergency response workers erect a field assistance command center.

in your vehicle, you can sustain life in an instant. If the time to leave arises, all you will need to do is grab your firearms, ammo, your bag and go.

IN THE BAG

Your bag is always your last line of defense, and therefore, it needs to be well stocked and ready to go in an instant. If you are down to just your bag, chances are that you are traveling on foot.

What you carry in your bag can literally mean the difference between life and death. Each member of your group should have a bag of their own, filled with supplies. Do not include unnecessary items; at this point, it is bare-bones survival.

Food: Weight and space need to be taken into account, so don't pack canned food. Pre-packaged dried food is the name of the game. All of this will keep you alive until you can find another food source. (Besides a few Mountain House or Paleo Meals to Go, I also pack as much Lawless Jerky, Three Jerks Jerky, the New Primal meat snacks and high-energy snack bars—Simple Squares, for instance—as I can.)

Water: Remember that everything needs to fit into your pack. I carry collapsible plastic water flasks such as those sold by Hide-Away. Unlike water bottles or canteens, they take up no room when empty.

You can only carry so much water, which means you will need to refill whenever you can. Remember: All water sources are questionable, especially in a survival situation. Any water you find needs to be boiled, chemically treated or filtered before drinking. There are many water filtration systems on the market that will fit into your pack. (I carry those made by Sawyer.)

Shelter: At this point, shelter is wherever you can find it. As long as it keeps you out of the elements and offers some concealment, it will work.

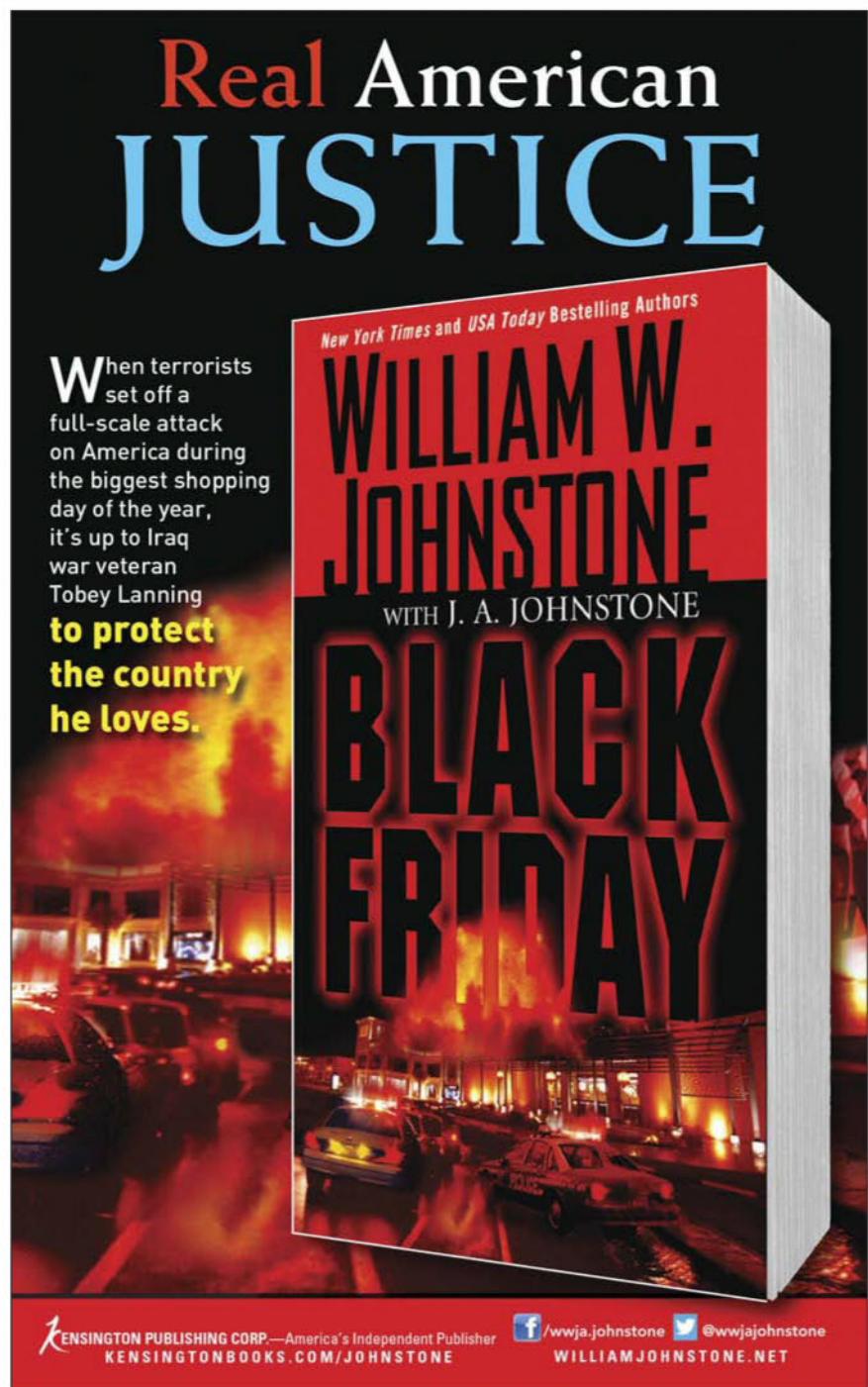
Tools: Your pack should always include a good, thick, fixed-blade knife. A Gerber StrongArm is always strapped to my pack. A knife such as this can be used for chopping, cutting or personal defense. In addition, I always carry a Swiss Army knife. This multi-use knife is perfect for skinning and cleaning fish and small game.

Fire: A fire can serve many duties in a survival situation. It can keep you warm, cook your food, boil your water and keep you calm. You should always have multiple ways of starting a fire. Butane lighters and matches, both wooden and paper, are cheap and light. Put some in your pocket, as well as in your pack.

Firearm: When it comes to firearms, I choose a .22 rifle. A handgun can be concealed, and a shotgun is more versatile, but the .22 rifle has its place. It is lighter than the shotgun and more accurate than a handgun, especially when hunting small game. These rifles are also quiet, so you probably won't give away your position when you shoot that squirrel.

First Aid: Last, but not least—a first aid kit. You can either purchase a prepared one or make your own for a lot less money. Within this kit should be all the items you would need in an emergency. You should also carry any prescription medications you or your family might need (see sidebar on page 23 for suggestions).

This is the basic information you and your family need to stay alive. Keep in mind, however, that each situation is going to be different. Even so, from the basic items discussed in this article, you can build and tailor everything to your needs. Then, you will be able to say, "I will survive." **ASG**





FIRE IN YOUR POCKET

A FAIL-PROOF FIRE STARTING METHOD FOR WHEN YOU ABSOLUTELY NEED FIRE

BY LEN McDougall



**"MY BACKPACK
AND SURVIVAL
KNIFE SHEATHS
CARRY FIRE
WICKS, BUT
YOU'LL ALSO
FIND THEM
IN MY KAYAK,
MY TRUCK'S
GLOVE BOX AND
EVEN JACKET
POCKETS."**

Wood smoke repels insects that can literally drive you to self-destructive behavior (I have watched men knock themselves unconscious as they ran to escape tiny predators). A smoke plume can be seen from a long distance during the day, and a bright fire is a beacon at night. Flames are fearsome to most animals; and the ability to cook ensures that victuals can be rendered digestible and pathogen free.

Fire can be as vital to survival today as it was to any of our ancestors. When being unable to light one might equal death or illness, you need as fail-proof a fire starter as you can get.

EASY PROCESS

The fire wick fire starter is a simple, easily made item for creating cheap, waterproof easily lit tinder. It has been part of my own survival kits for 40 years.

The fire wick's most basic form consists of thick cotton (laundry and packaging) string that has been saturated with molten wax, cooled and hardened, and then cut to the desired lengths. The string used must be clean-burning cotton—not nylon or other synthetics, because these don't burn well. In addition, burning synthetics emit noxious fumes (cyanide, among them). Cotton string can be found in crafts or housewares aisles, priced at about \$2 for 100 yards.

MELT THE WAX

A length of cotton string is slowly lowered into a metal vessel containing a block of molten wax (canning wax). Wax is sold in supermarkets for about \$2 per



◀ Cotton twine and paraffin canning wax are the two main ingredients for a never-fail tinder.

pound. Alternatively, you can melt down stubs from used candles, which also work well but will impart whatever scents or dyes are in the wax.

Take these sensible precautions when melting wax:

- Do the job in a ventilated place where there is no danger from fire.
- Always wear work gloves when handling hot wax.
- Never permit a vessel containing molten wax to get hot enough to smoke, because



that's a precursor to it bursting into flames.

If your melting pot does burst into flames, don't panic. The flaming wax is still safely contained. Cover the pot with a loose-fitting lid (a tight one will blow off from the pressure) to smother the fire and immediately turn off the heat. Nevertheless, even removed from heat, wax remains liquid for a half-hour or so, depending on ambient temperature.

REMOVE THE STRING

With gloves on, use pliers to pluck one end of the string from the melting pot (remember, do this in a place where hot wax drippings will do no harm). Pull the string outward in a straight line, allowing it to drag over the rim of the pot to wipe off excess wax, until the entire length has been extracted. Hang the wax-soaked string over a nail or rail until it cools and hardens—usually about 15 minutes for single-strand wicks. Longer lengths may be coiled and hung on a nail to cool.

The cooled strings will stiffen sufficiently to easily cut into sections using scissors. I package the sectioned fire wicks into old pill bottles or zip-top bags and scatter the hundreds I make at a time throughout my possessions.

Cut the cooled, stiffened string into individual wicks with scissors. The discoloration here is caused by residual dye from melted candle stubs—another source of wax for fire wicks.

“THE FIRE WICK FIRE STARTER IS A SIMPLE PROCESS FOR CREATING CHEAP, WATERPROOF, EASILY LIT TINDER.”



My backpack and survival knife sheaths carry fire wicks, but you'll also find them in my kayak, my truck's glove box and even jacket pockets. I also carry them in my toolbox, where they've come in handy for relighting gas furnaces and other pilot lights.

TWIST-LOCK WICK

In most instances, a single-strand fire wick is all that's needed. However, I sometimes prefer a thicker, longer-burning tinder. For this, I use a twist-lock doubling technique that has been used to make rope from plant fibers since primitive humans discovered that skill.

Twist the string in a single direction until torque causes it to coil around itself when the pull from either end is relaxed. Hold the twisted string taut while folding it in half to bring the two ends together. Slowly ease tension on the doubled string, allowing it to wrap evenly around itself like a small rope. This doubled (or quadrupled, if you repeat the twisting process again) cord can then be dipped into molten wax, cooled and cut into sections to make thicker fire wicks that burn as much as several times as long as a single strand.

STRING OPTIONS

Alternatives to cotton string include wool felt weather-stripping (found in hardware stores), or old wool felt pac-boot liners cut into strips. Cotton balls wrapped with string absorb a lot of wax. Yet another good option is rolled toilet paper that is wrapped with cotton string and then cut into disk-like sections.

Again, try to use only natural materials such as cotton or wool. Synthetic fibers, including dryer lint, not only don't burn as well; they also emit toxic gases such as carbon monoxide and cyanide.

VARIATIONS ON THE THEME

A simple variation is the fire knot, created by taking six or as many as 10 strands of cotton string and tying them together with a series of simple overhand knots. When the wax-soaked strings or knots have hardened, they're cut free of one another and placed into a bottle, pocket or whatever location is convenient. They can never become too worn or wet to light. In fact, every form of fire wick has remained useful for up to a year—just carried in a hip pocket.

Other variations are limited only by

"THE FIRE WICK HAS EARNED A PLACE AS A MUST-HAVE ITEM IN MY OWN NEVER-FAIL FIRE MAKING KIT."



◀ A cooled and stiffened coil of wax-saturated cotton string waits to be cut into fire wicks.



◀ Wind the still warm and pliable wax-saturated cotton twine into more manageable coils.



◀ Feed unsaturated cotton string into a vessel containing molten wax.



your imagination. I often wear a small neck knife and compass around my neck on a lanyard made from wax-soaked cotton string. A short piece of this lanyard and a little ingenuity give me the ability to make fire, even in a hard rain.

LIGHT IT UP

To use a fire wick, you'll only need an initial source of combustion. A butane or liquid-fuel lighter is a universally recommended fire-making tool, as are matches—even book matches, if they're carried with their strikers in a weather-tight container.

I've also ignited well-frayed fire wicks using only sparks from a Strike Force or Blast Match flint and steel (I mention these brands specifically, because they produce the hottest sparks). The most effective method of lighting them is to fray one end of the wick into an airy mass that flames up at the touch of a burning match.

Lay the lighted fire wick atop a platform of side-by-side sticks to shield it from evaporating ground moisture. Add fire wicks as needed, and slowly build a teepee of thin dead twigs around the platform's perimeter. Add larger sticks as the fledgling fire grows, and you have achieved a crackling blaze.

◀ Far left: Extract the wax-soaked cotton string from the vessel containing molten wax.

◀ Left: Fire wicks can come in many forms.

◀ Far left: Cotton batting wrapped in cotton string, waiting to be soaked in wax (right), and finished (left), to form the most effective tinder in the world

◀ Left: This coil of "fire string" is a compact bundle that can be cut to length for use as a flammable compass, neck knife lanyard or a waterproof tool handle wrap.

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◀ When plucking any form of fire wick from a pot of molten wax, always use a pliers; never reach into the liquid with your fingers.



◀ A cotton ball wrapped in cotton twine and then saturated in paraffin forms a super-long-burning fire wick for use in the wettest, most inclement conditions.



◀ With a couple of pots, cotton twine and wax from any source—even old candle stubs—you can create an abundance of the world's best fire starters.



◀ Above, left: Fire knots are simple, long-burning variations of fire wicks that are created by simply tying overhand knots into doubled, quadrupled (or more) lengths of string before saturating them in molten wax.



◀ Above, right: The basic components of the most effective and field-proven fire starting tinder in the world—ironically, not for sale at any price

“SYNTHETIC FIBERS ... DON’T BURN AS WELL; THEY ALSO EMIT TOXIC GASES SUCH AS CARBON MONOXIDE AND CYANIDE.”

Considering the value this simple, yet very effective, fire starter has had for me through years of survival classes in cold rains and snowstorms—when not having fire is simply not an option—I’m surprised that no company is manufacturing fire wicks. Until someone does, I’ll keep making and using my own, because the fire wick has earned a place as a must-have item in my own never-fail fire making kit. **ASG**



◀ Right: Can there be a more convincing illustration of a fire wick’s effectiveness than this photo of a burning wick melting its way down through hardpacked snow?



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SURVIVAL GARDENS

**TILLING THE LAND IS THE ONLY
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OF WORKING FOR THE LAST
10,000 YEARS.**

BY STEVEN DICK





For me, one of the mysteries about many preppers is their plan that when times get bad, they will simply load up their four-wheelers and head for "the woods" to live off the land.

For starters, whose woods? City people seem to find it hard to believe, but someone already claims every acre outside their urban paradise. So, you can't just set up camp wherever you want. And just how long do

you think the game will last if massive numbers of people start hunting it year-round?

Take a look at what most of the United States was like back around 1900. Practically everything larger than what we call "small game" was gone.

The fact is, even the pre-Columbian Native Americans depended more on basic survival agriculture than they did on large game much of the year.

The good news is that just a couple of acres of intensively farmed ground will supply a family with basic subsistence.

When it comes to true long-term survival during bad times, you have to put your most serious efforts into your winter larder. Anyone can grow fresh produce during the summer and probably make it last until fall. However, the months between October and June separate the weak from the survivors.

"WHEN IT COMES TO TRUE LONG-TERM SURVIVAL DURING BAD TIMES, YOU HAVE TO PUT YOUR MOST SERIOUS EFFORTS INTO YOUR WINTER LARDER!"

The Great Plains tribes we often think of as totally focused on buffalo actually depended on what they called "the three sisters"—corn, beans and squash—as their primary subsistence foods much of the year. This was basically the same for many of the Eastern tribes.

Hunting and gathering are extremely rough approaches to guarantee your survival, year in and out; sooner or later, the game disappears or moves to another area. Understanding this inevitability, cultures around the world discovered thousands of years ago that farming is much more reliable.

LOCATION, LOCATION, LOCATION

Probably the first requirement for starting a subsistence garden is the same as with any good business: location, location, location! For instance, if you think you can bug out to the mountains—where the growing seasons are short, the soil is shallow and the water limited—nature is going to teach you some very hard lessons. The West is covered with old homesteads at which the families "starved out" after a few years of desperately hard work.

You want the earliest frost-free date possible, warm summers, good, deep soil

and either adequate natural rainfall or a reliable source of irrigation water. And make sure you check the water rights for that last item, because they might not be available for your use. Just because a stream runs across your land doesn't mean it's yours to use—and that also goes for rainwater in a lot of Western states.

POTATOES

For choosing crops to grow, we need to start with something that wasn't available to North American tribes before Columbus—potatoes. They grow well in a wide variety of soil types, tend to produce most of their yield before summer droughts start and easily provide a large harvest that stores well for winter use. This is one food item our family virtually never buys from the store, because for "most" years (don't make the assumption that anything will work every year), the new crop begins about the time we finish the last.

As the Irish once proved, you can practically live on potatoes three times a day ... provided you have them. On our homestead, it takes roughly 200 feet of rows to produce a full year's supply of potatoes. We would probably need to increase that if other staples, such as rice, were no longer available.

CORN

After potatoes, corn is probably the next most important survival crop on the homestead and is grown in every state in our nation. Those without a farm background tend to think of "sweet corn" when considering this crop, but it really isn't ideal for long-term storage. Field corn or an Indian variety made for growing to full maturity and drying on the stalk before storage are the best bets. These varieties have to be ground into meal to be used for bread, tortillas or soup thickener.

Like potatoes, corn is another crop that grows well under a wide range of conditions and produces a relatively large harvest in a limited amount of space. If kept dry and away from rodents, it is one of the easiest crops to store for long-term use.

Corn, alone, does not comprise a totally

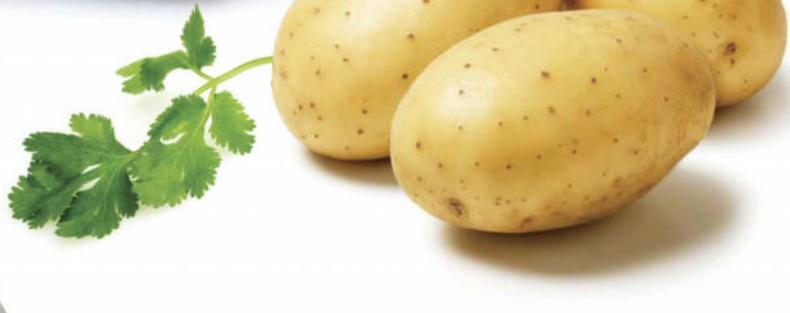
➤ *Below:* One of the basic New World survival crops is squash. A Hubbard squash such as this one will keep over the winter under the right conditions.



➤ *Near right:* Corn has long been a staple survival crop in the New World. It is easy to grow, produces large yields and stores well over the winter.

➤ *Far right:* Combine beans with corn and squash, and you have a reasonably balanced diet. Adding a bit of onions, chiles and tomatoes will keep things from becoming boring in the long run.





◀ *Far left:* Pumpkins and other squashes were once one of the most important survival foods of Native Americans. Look for those that feature long-term storage qualities.



◀ *Far left:* Having spent time in China, I know that an area the size of my garden would feed an entire family (that is, with hard work and the right crops).



► Far right: Chiles such as this Thai chili are another of the universal crops grown to season the basic survival foods.

► Right: Dill is another one of those easily grown and dried seasonings that have many culinary uses.



“... IF YOU THINK YOU CAN BUG OUT TO THE MOUNTAINS—WHERE THE GROWING SEASONS ARE SHORT, THE SOIL IS SHALLOW AND THE WATER LIMITED—NATURE IS GOING TO TEACH YOU SOME VERY HARD LESSONS.”

balanced diet. The first step in correcting that is to add dried beans to the larder for protein and fiber. There is a huge variety of beans than can be grown—but, for me, at least—picking one mostly depends on what grows best in your particular area. Here, in the Northwest, that narrows it down to just a couple we have been successful with, year in and year out: black coco and blue lake beans. A Midwestern gardener would have a far larger selection that might even include soybeans for tofu. (Frankly, however, there are a lot of good reasons to locate your survival homestead in the eastern half of the country.)

SQUASH

Squash—and I'm also including pumpkins in this group—is another staple food crop that comes in a wide variety of types. Look for the varieties labeled “winter”; this is an indication of their storing advantages. Most require a “curing” in the fall, but the best types will last up to six months in a cool, dark area. On the other hand, the various types of “summer” squash offer a quick turnaround when you are looking for food in a relative hurry.

CARROTS

For some reason, a crop that seldom seems to turn up on a long-term winter survival list is carrots. They are full of all sorts of minerals and vitamins you are going to need, and over-wintering them is relatively easy.

Simply mulch your carrot rows with a deep layer of leaves in the fall. Short of an extremely hard freeze, this is normally enough to protect them. It also allows more space in your cellar/fruit room for items that can't be over-wintered outside. Similarly, we also mulch a lot of our potato crop in the ground for the same reason. If left unmulched, they tend to freeze during bad winters.

SEASONINGS

Coming after the basic food groups that will keep you alive are the plants that will make a steady diet of corn, beans, potatoes, carrots and squash a little more bearable. I don't care where you go in the world, you will find a small group of staples raised for that exact purpose: onions, garlic, tomatoes and chili peppers.

Because they dry out easily, chili peppers

► Above: A few basic herbs, such as these bay leaves, French thyme and oregano, are easy to grow and will spice up simple food dishes.

are probably the easiest to store for winter use. They come in a huge variety of sizes, flavors and heats. You can match what you plant with your personal tastes without too much problem.

Both onions and garlic can be stored fresh in a cool, dark place for most of the winter, but it would be a good idea to dehydrate extra supplies for when they run out about late January.

While under the right conditions tomatoes can also be dried, most of us depend on canned whole fruit and sauce. This, of course, will require canning lids and jars—an expensive approach. Canning items might become very difficult to find during hard times; and frankly, I consider canning lids and rings two of the weak links in any long-term homestead subsistence gardening plan. So, stock up now.

Next, my garden strategy would offer a basic selection of easily grown herbs. French thyme is incredibly tough, and neither winter cold nor summer droughts affect the large pot we have on our patio. In addition, sage and rosemary usually survive all but the coldest winters.

Our bay laurel freezes back during

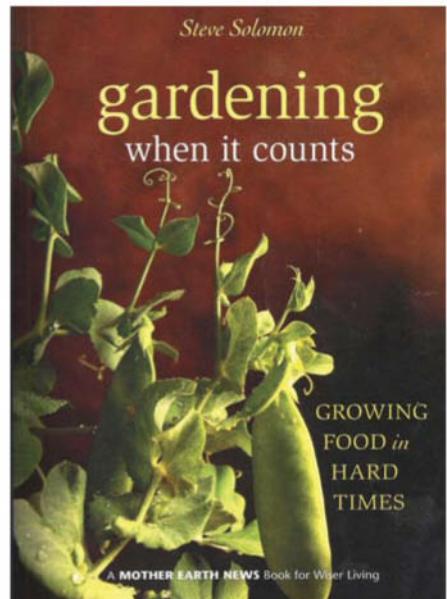
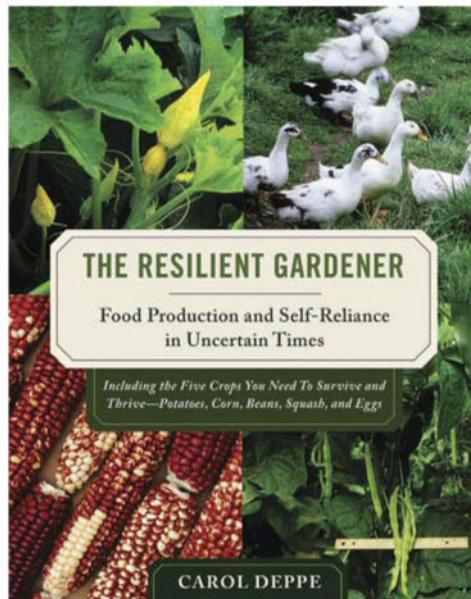
especially bad winters but always seems to re-sprout from its roots come summer. The Mexican oregano my wife once planted in her rose beds reseeds each year with 100 percent reliability. The same goes for the coriander I let go to seed in our main garden a few years ago. Mint is another option, but once you establish a bed of mint, you will usually spend more time trying to control its spread than growing it.

Unfortunately, the two most basic condiments, salt and black pepper, will be less easy to come by during really hard times. My advice is to stock up on these before times get rough.

GOOD READING

Knowledge before you need it is always invaluable, so I am recommending a couple of books. The first is *The Resilient Gardener, Food Production and Self-Reliance in Uncertain Times* by Carol Deppe. I can't praise this book too much, because Deppe truly lives the life she writes about.

The second book is *Gardening When It Counts, Growing Food For Hard Times* by Steve Solomon. Long-time Northwesterners might remember Solomon as the founder



“...JUST A COUPLE OF ACRES OF INTENSIVELY FARMED GROUND WILL SUPPLY A FAMILY WITH BASIC SUBSISTENCE.”

▲ Above: I can't recommend these two books enough to the homesteader looking to start their own subsistence garden.

of Territorial Seed Company, a mail order source of seeds especially selected for Pacific Northwest gardens. He has since sold the company and moved—to Tasmania, of all places—to continue his personal research on subsistence gardening.

One unwelcome point he makes in the book is that he doesn't feel the wet sections of Washington and Oregon are suited to long-term gardening, because the heavy rains will eventually leach all the nutrients

out of the soil.

Living your life mounding potatoes and shelling corn might not sound as romantic as becoming some modern-day mountain man, roaming the forests and living off fish and game, but it is far more realistic. The last 10 thousand years of human civilization have proved that long-term subsistence will always depend on what you can grow, not what you can hunt. **ASG**



◀ Far left: The normal “lawn” in southern China consists of kitchen greens for the family.

◀ Left: Beans are another part of the critical “three sisters” trilogy of survival crops.

◀ Far left: This freshly plowed rice patty produces two crops a year in southern China and feeds an entire family.

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MAKING VINEGAR FROM SCRATCH

VINEGAR SHOWS UP IN A LOT OF FOODS, BUT IT ACTUALLY HAS COUNTLESS NON-CULINARY USES.

STORY AND PHOTOS BY PASCAL BAUDAR



Many people think of vinegar as a nice culinary condiment, but from a survival perspective, being able to make your own vinegar has tremendous advantages. If you do a quick search online related to the uses of vinegar outside the culinary realm, you will be amazed by its countless applications.

To give you a few examples:

- Vinegar can be used as an antiseptic cleaning agent in various strengths. As a disinfectant, you can use a 50/50 water-vinegar mix to wipe down surfaces, doorknobs and more during a cold and flu season or a viral epidemic.
- You can use vinegar to repel insects through topical skin application.
- It can be used to remove bacteria from vegetables and fruits. The usual way is to spray them with a mix of three parts water and one part vinegar and then rinse them off with water.
- A vinegar-and-water solution can also be applied on wounds to kill germs (with moderation. Make sure to research this area).

FOOD PRESERVATION

However, one of vinegar's main uses is related to food preservation. A study of food-preservation techniques during the Middle Ages (which was basically a grid-down scenario) shows that one of the main techniques used to preserve meats and fish was done via typical pickling agents—which included brines and vinegar.

Today, products preserved in vinegars are present everywhere in the aisles of our supermarkets—hot sauces, pickles, salad dressings and countless other food items.

And because you are a survivalist, there are many interesting products you can create for yourself to build a pantry or sell on the black market using what the environment or garden can offer.

WHAT IS VINEGAR, AND HOW DO YOU MAKE IT?

Vinegar is a by-product of alcoholic fermentation. Yeast changes sugar into alcohol and, once that is complete, a second group of bacteria (*Acetobacter*) usually converts the alcohol part into acid. This second acidic fermentation creates the vinegar. Under controlled conditions, such as lack of oxygen, for example, you can keep your alcohol from turning into vinegar if making alcohol is what you want.

Frankly, the best option is to learn how to make your own vinegar the usual way. It's really not a difficult process and is usually done by purchasing raw vinegar or by acquiring some "mother of vinegar" from a friend (it's also sold online) and mixing it with an alcoholic beverage.

But let's really get down to the basics on this one: How can you make vinegar from scratch?

It turns out that it's not that difficult. It might not work every time, but with a bit of persistence, you're pretty much guaranteed to be successful. And with experience, it's really a cinch.

"... FROM A SURVIVAL PERSPECTIVE, BEING ABLE TO MAKE YOUR OWN VINEGAR HAS TREMENDOUS ADVANTAGES."

I'm sure there are many vinegar-making methods, but I'm going to give you the most common one—and the weirdest one, too, simply because that one always works for me in the hot climate of Southern California.

FRUIT AND BERRY VINEGARS

You can use all kinds of fruits and berries with this method, but it will work better if you use fruits that have a white "bloom" (wax and yeast) on them, such as plums, elderberries or grapes. Apples also work great with this method, but I haven't tried that yet.

1 Cut and crush the fruits. Place everything into a clean canning jar (at around 60 percent of the jar's volume).

2 Add a solution of sugar water (20 percent sugar, 80 percent water) to the jar until the fruits and liquid solution reach around 90 percent of the jar's volume. Place the lid and screw the band—but not too tightly: You want fermentation gases to escape but without letting bacteria and insects enter the jar from the outside.

3 Place the jar in an area that is ideally around 70 to 80 degrees (F). The hotter the temperature, the faster your solution will ferment; but there is a limit.

4 Shake the jar two or three times a day, but make sure you don't screw on the lid too tightly after each shaking. In three to five days, you'll see that the solution produce bubbles. That's what you want; it means it is fermenting.

5 When it is fermenting nicely, strain the mixture and keep the liquid. Place your fermenting solution into another clean jar, preferably in an area that is around 65 to 80 degrees. Let the fermentation continue. Again, screw on the lid, but not too tightly, so that the fermentation gases can still escape. Personally, I keep shaking the jar a couple of times a day.

6 When the fermentation is nearly complete (usually a couple of weeks), I



1

Place crushed fruits into a clean canning jar with the lid lightly screwed on.



3

Nice and bubbly fermentation from local grapes



5

Replace the lid with a clean paper towel and screw on the band. It should take two to three weeks to get *aceti* bacteria to turn the alcohol into vinegar. The vinegar-making bacteria need oxygen to work.



7

This is an example of vinegar made by the author using this method. You can see the beautiful mother of vinegar floating on top.



2



4

Strain the fermenting mixture into another clean jar.

Let it ferment for a couple of weeks.



6

Place the jar in a somewhat dark place, and let nature do the work.



8

With a little effort and patience, you'll be creating your own collection of this essential prepper elixir in no time,



1 Yes, you can make vinegar by using fruit flies, because they have the bacteria on their bodies to turn beer, wine or other alcoholic beverage into vinegar.



2 By using fruit flies, the author's wild beer has turned into vinegar.



3 Filtering the vinegar to remove the dead flies. Make sure to also keep the mother of vinegar, which usually floats on top.



4 Some of the author's vinegars are made with homemade beers, wine and mead.

"...FRUIT FLIES ARE REALLY HELPFUL IN CREATING YOUR OWN WILD STRAINS OF VINEGAR."

replace the lid with a paper towel or clean cheesecloth and screw on the band. The vinegar-making bacteria need oxygen to work. Place the jar in a somewhat dark place, and let nature do the work.

7 Check the jar in two or three weeks. If you were successful, you will see a gelatinous surface (think jellyfish) on top. This gelatinous surface is called a "mother of vinegar" and is really a colony of bacteria. Underneath, the liquid has turned into vinegar.

You can make more vinegar by placing it into another alcoholic beverage, such as beer or wine. I usually use 20 percent raw vinegar with the mother and 80 percent alcoholic beverage.

FRUIT FLIES VINEGAR

There is another method I use in Southern California that is a bit strange, but it works all the time: fruit flies.

This concept might sound rather disgusting to some, but it's probably how some vinegars were made in the first place. Research about making homemade vinegars reveals some sort of obsession about fruit flies and how to protect your vinegar from them. Here, in Southern California, we are loaded with them. If I open a bottle of vinegar or one of my wild beer bottles, I have a crowd of them trying to feast on it within minutes.

Interestingly, as I found out, fruit flies are really helpful in creating your own wild strains of vinegar. The discovery came from a simple observation: One of my friends makes elderberry wine each year, and some of her bottles always turn to vinegar.

Always on the lookout for a new mother of vinegar, I gladly accepted some of this starter culture from her. The interesting part was that I would always find a substantial number of dead fruit flies at the bottom of her elderberry vinegar.

I found this rather unappetizing and would filter the vinegar to get rid of them. But the observation of the dead flies

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Pattern 41 Blades

Overall Length: 7 5/8", Blade Length: 3", Width: 1", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4198	1095	Satin	24.95
J419K	1095	Black Teflon	24.95
J4127	D2 Steel	Peened	32.95
J4128	D2 Steel	Satin	32.95
J4137	CPMS 30V	Peened	42.95
J4138	CPMS 30V	Satin	42.95
J4189	Damascus	Random	79.95

CAT.#	SHEATH	PRICE
KT410	Kydex	12.95
KT455	Kydex Belt Clip	9.95

CAT.#	SHEATH	PRICE
KT420	Kydex	12.95
KT455	Kydex Belt Clip	9.95

Pattern 42 Blades

Overall Length: 6 5/8", Blade Length: 2 5/8", Width: 7/8", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4298	1095	Satin	24.95
J429K	1095	Black Teflon	24.95
J4227	D2 Steel	Peened	32.95
J4228	D2 Steel	Satin	32.95
J4207	440C	Peened	32.95
J4208	440C	Satin	32.95
J4257	CPM154	Peened	39.95
J4258	CPM154	Satin	39.95
J4289	Damascus	Random	69.95

CAT.#	SHEATH	PRICE
KT440	Kydex	12.95
KT455	Kydex Belt Clip	9.95

Pattern 44 Blades

Overall Length: 6 1/2", Blade Length: 2 1/2", Width: 1 1/8", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4498	1095	Satin	24.95
J449K	1095	Black Teflon	24.95
J4427	D2 Steel	Peened	29.95
J4428	D2 Steel	Satin	29.95
J4407	440C	Peened	29.95
J4408	440C	Satin	29.95

CAT.#	SHEATH	PRICE
KT440	Kydex	12.95
KT455	Kydex Belt Clip	9.95

Pattern 45 Blades

Overall Length: 7 3/16", Blade Length: 3 1/4", Width: 1 1/16", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4598	1095	Satin	24.95
J459K	1095	Black Teflon	24.95
J4527	D2 Steel	Peened	32.95
J4528	D2 Steel	Satin	32.95
J4507	440C	Peened	32.95
J4508	440C	Satin	32.95
J4589	Damascus	Random	79.95

CAT.#	SHEATH	PRICE
KT450	Kydex	12.95
KT455	Kydex Belt Clip	9.95

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Pattern 31 Blades



Overall length 7 5/8", Blade Length 3", Blade Width 1 1/8", Blade Thickness 5/32". Bolster holes 1/8", Handle Holes 1/4", Thong Hole 1/4". Cryo Tempered.

CAT.#	STEEL	FINISH	HRC	PRICE
J3128	D2	Satin	59-61	31.95
J3148	154CM	Satin	58-59	35.95
J3198	1095	Satin	57-58	24.95
J319K	1095	Black	57-58	24.95
J3189	Damascus	Etched	58-60	99.95

Handles for Pattern 31



Contoured and textured handles for Pattern 31. Cut slightly oversized for proper fitting. More handle options are offered online.

Handles Smooth No Texture

CAT.#	COLOR	MATERIAL	PRICE
D3149	B.I./Cocobolo	Dymondwood	16.95
G3119	Black	G10	18.95
G3129	Red	G10	18.95

Handles Basket Weave Texture

CAT.#	COLOR	MATERIAL	PRICE
M3131	Red	Micarta	16.95
G3111	Black	G10	21.95
G3131	Orange	G10	21.95
G3151	Olive Drab	G10	21.95

Pattern 36 Blades



Overall length 7 5/8", Blade Length 3", Blade Width 1", Blade Thickness 1/8". Bolster holes 1/8", Handle Holes 1/8", Thong Hole 1/4". Flat ground.

CAT.#	STEEL	FINISH	HRC	PRICE
J3628	D2	Satin	59-61	31.95
J3638	CPMS30V	Satin	59-61	41.95
J3608	440C	Satin	57-58	31.95
J3698	1095	Satin	57-58	24.95
J369K	1095	Black	57-58	24.95
J3689	Damascus	Etched	58-60	74.95

Handles for Pattern 36



Contoured and textured handles for Pattern 36. Cut slightly oversized for proper fitting. More handle options are offered online.

Handles Smooth No Texture

CAT.#	COLOR	MATERIAL	PRICE
D3653	B.I./Rosewood	Dymondwood	16.95
E3601	Birdseye Maple	Wood	24.95
E3672	Desert Ironwood	Wood	39.95

Handles Basket Weave Texture

CAT.#	COLOR	MATERIAL	PRICE
G3610	Black	G10	21.95
G3630	Orange	G10	21.95
G3650	Olive Drab	G10	21.95
G3660	Blue/Black	G10	21.95

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Pins/Pattern 36

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Bolsters/Pattern 36

Bolsters are oversized, for proper fitting and include two matching pins. Dry fit bolsters and polish front edges before peening it to the blade.



Cat.

CAT.#	THICK	ALLOY	PRICE
K363	3/16"	Brass	6.95
K364	3/16"	Stainless	6.95

became the key to resolving my attempts at making wild vinegar from scratch with my homemade beers and wines.

So, I decided to do an experiment. I poured some of my beer into a jar and placed it outside. Within minutes, I had a lot of fruit flies getting in and enjoying themselves. Some of them would fall into the beer, and within 30 minutes, I had around 20 floating fruit flies. I then placed cheesecloth on top of the jar and screwed the lid down.

My "Eureka!" moment occurred a week later: After a quick sniff, I realized that the beer with the fruit flies was turning into vinegar. It took three weeks to get a thin mother of vinegar on top.

My next step was to use a coffee filter and strain the vinegar. I removed the dead flies and kept the mother of vinegar, which I used in a new batch of beer to make more vinegar.

If you use this method, because you're dealing with wild strains, you might end up with vinegar you don't like. So, expect some failures ... but the successes are worth it.

Interestingly enough, this method has not worked very well so far with purchased white wine or red wine, probably because of the sulfites used in winemaking, which inhibit the "natural" vinegar bacteria.

If you want to experiment with this method, make sure you only let fruit flies contaminate your brew, not regular houseflies or other critters. Have fun, expect a few failures, and learn from them.

As a note, using your own vinegar for preserving food (as it was done in the Middle Ages) is really a SHTF application. These days, it is recommended to use a vinegar that contains at least 4.5 percent acetic acid. That is the percentage needed to make sure you kill off the harmful bacteria and preserve the food. Your own vinegar might end up being more acidic (a good thing) or less.

If you truly want to know how acidic your vinegar is, you can purchase an acid titration kit, which is available in many beer supply stores. Using simple math, you can figure out how much acetic acid it contains, and from there, use it for preservation methods.

That said, remember that your ancestors have been using homemade vinegar for preservation for centuries. **ASG**

*(Editor's note: If you would like more information, find it in the author's book, *The New Wildcrafted Cuisine*, and online.)*

"... YOUR ANCESTORS HAVE BEEN USING HOMEMADE VINEGAR FOR PRESERVATION FOR CENTURIES."



From survival to gourmet food—local trout pickled in homemade vinegar with wild spices and honey, ready to eaten. Delicious!



The author's mead vinegar is aged in oak barrels.

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HOW TO THRIVE—NOT SIMPLY SURVIVE— IN A NON-PERMISSIVE DISASTER ENVIRONMENT

BY DR. MARTIN D. TOPPER

Most of us are prepared to shelter at home for at least two weeks if a terrorist attack or natural disaster disrupts local services, but are we prepared to relocate in the event our homes become uninhabitable and the disruption in services leads to civil disorder? Do you have a plan and the necessary equipment to get you and your family safely to a nearby temporary relocation site?

Answers to these and other important survival questions are provided by trainer Russ Adler of Adler Associates International in his Disaster Insurgency Recovery Exercise 1 Course (DIRE 1).

THE COURSE

DIRE 1 is a one-day introduction to disaster insurgency that Russ teaches around the country. The one I attended was near Lake City, Florida.

The goal of the course is to provide

trainees with the ability to thrive, rather than just survive, in a non-permissive disaster environment. This is accomplished by giving the trainees an overview of how to develop a strategy for overcoming civil disorder during a man-made or natural disaster; how to assemble a kit of vital supplies you'll need for survival; and how to employ the defensive tactics you'll need to protect yourself from insurgents who seek to do you or your family harm as you move to a nearby relocation site.



REPREARED?

Russ draws on his background in corrections, law enforcement and security contracting in the Middle East and in New Orleans during Hurricane Katrina to provide trainees with concrete insights about how to successfully operate in non-permissive environments populated with armed hostiles. Those who successfully complete DIRE 1 may then attend DIRE 2 and 3, which provide additional skills that enhance trainee competence and their ability to overcome the challenges in their new situation.

What separates DIRE 1 from many other counterinsurgency courses is that DIRE 1 is more than a course about shooting. In fact, the morning is spent on classroom instruction in a variety of survival skills.

The afternoon is spent on shooting skills, but these skills are specifically tailored to surviving and thriving, rather than gun handling. Russ runs every trainee through a shooting drill to ensure he or she knows how to run the guns they've brought

► *Right:* This light, foldable backpack can make an excellent go-bag in the event you have to leave your bug-out bag behind and hike a number of miles to a safe area.

► *Below, top:* DIRE 1 is as much about Russ Adler providing trainees with mental "software" as it is about shooting and practice of basic survival skills.

► *Below, middle:* A simple metal ammo can is easily converted into a nested Faraday cage for protecting vital electronics from man-made and natural electro-magnetic pulses.

► *Below, bottom:* This small bag makes a good go-bag that can hold a small amount of food, a compass, first aid kit and a variety of tools necessary for survival.



"... RUSS WOVE THE THEME OF STRATEGIC PLANNING INTO HIS DISCUSSION OF SUPPLIES AND SURVIVAL GEAR, FOCUSING ON BOTH SHORT- AND LONG-TERM PLANS."

before allowing them to take part in any more-complex shooting activities. So be sure your skills are up to par before you go.

A word of caution: The shooting drills depicted in the photographs that accompany this article are skills that are far beyond the "square range" tactics taught at many shooting schools. Russ makes the complex drills safe by having a separate safety officer accompany each shooter. (Given the complexity of the drills in DIRE 1 and their safety requirements, do not try to duplicate the drills that are depicted in this article.)

STRATEGY

"Strategy" isn't just for generals. Individuals and families also need strategies. Throughout the morning session, Russ wove the theme of strategic planning into his discussion of supplies and survival gear, focusing on both short- and long-term plans.

A short-term plan is for a local or regional disaster-related insurgency. It covers the first 72 hours, during which local public services fail and the insurgency builds to peak strength. It also covers the next two weeks to three months, during which outside resources (police, National Guard, Red Cross, etc.) would come in and provide family assistance, public order and essential public services.

This first plan includes both shelter-in-place and local relocation. If disaster conditions last longer than three months, the second plan kicks in—because, if you can't resume your daily routine within 90 days, you're probably looking at a nationwide breakdown in governance. This is what Russ calls a "way-of-life-changing event" (WOLCE); it's the focus of what he teaches in DIRE 2 and DIRE 3. However, Russ discusses WOLCEs with the DIRE 1 trainees to make them aware that they'll also need a plan for long-term sustainability, which can take up to three years to achieve.

Russ's personal plan is written down in a loose-leaf "red book" that he updates as needed. The book is structured according to the PACE principle—it has a primary plan,

alternate plan, contingency plan and emergency plan. For example, the red book contains his SERE (survive, evade, resist and extract) plan. The SERE lists back roads and hospitals, food sources and other resources along those roads. It also contains intelligence that could be relevant to his family's survival.

The SERE has a primary evacuation route, an alternate route if the primary is not available and a contingency route that would be used if the primary and alternate were blocked. Finally, there's an emergency route that would quickly get Russ to the best defensive position in his locality if conditions were such that he could not access the other three choices and get out of the area.

The final part of the plan involves creating a MAG (mutual assistance group). It is critical to be part of a group of individuals who can count on each other for support and assistance. During an insurgency, one person cannot conduct all the activities needed for thriving, let alone surviving. How could just one person maintain communications, repair equipment, gather and/or produce food, maintain a 24-hour

“... DIRE 1 IS MORE THAN A COURSE ABOUT SHOOTING. IN FACT, THE MORNING IS SPENT ON CLASSROOM INSTRUCTION IN A VARIETY OF SURVIVAL SKILLS.”



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Joseph Alton MD
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The advertisement features a collage of images including a woman in a flight suit, a man in a vest, a book cover for 'The SURVIVAL MEDICINE Handbook', and a medical kit. The text 'DOOMANDBLOOM.NET' is prominently displayed at the top. Below it, 'AMY ALTON, A.R.N.P. AKA 'NURSE AMY'' and 'JOE ALTON, M.D. AKA 'DR. BONES'' are shown. The central text 'The Best Medical Kits. Period.' is overlaid on the image. The bottom text 'Store.DoomandBloom.Net' and 'New: The Third Edition' are also present. The 'SURVIVAL MEDICINE Handbook' book cover is shown with its title and a red cross logo. A medical kit is shown open, displaying various supplies. The overall theme is survival and medical preparedness.

► A high-quality light hatchet and a solidly-built 5-inch hunting knife are vital tools to have during a disaster.



“...IF YOU CAN’T RESUME YOUR DAILY ROUTINE WITHIN 90 DAYS, YOU’RE PROBABLY LOOKING AT A NATIONWIDE BREAKDOWN IN GOVERNANCE.”



◀ Left: A DIRE 1 trainee rotates chickens cooked over an open fire. All meat, whether from a store or a fresh kill, must be thoroughly cooked to prevent illness.

◀ Above: Two trainees skewer chickens on a makeshift spit made of a stick foraged from the surrounding woods.

perimeter, tend to the sick, etc., etc.?

The answer is, You can't. Therefore, it's vital to identify people beforehand who are willing and able to work with you when disaster strikes.

EQUIPMENT

Surviving and thriving during a disaster insurgency involves more than having the right mental software. It also involves having the proper gear and packaging it in a manner that's portable so you can bug out if necessary.

Given this, Russ introduced us to some of

the most important basic equipment and supplies needed to maintain communications, provide security, obtain, carry and process food and water, maintain personal hygiene, travel across the country, provide illumination at night, provide shelter, and treat injuries and other medical conditions.

Here is a sampling of his suggestions:

Communications: Russ strongly recommends portable, handheld, two-way radios for use when cell phones won't work. He also showed us how to build a nested Faraday cage for protecting radios and other electronics from EMPs. He even discussed how to hook two radios together to create a repeater that extends radio range up to 50 miles.

Security: With respect to security, he stated that each person in the group who was capable of using a handgun should have one and should be trained in how to use it. As to long guns, he felt that shotguns and semiauto rifles are both good choices—as long as the person using them is skilled and understands how to deploy them effectively.

Food and water: Obtaining these requires a variety of tools. These include matches, a



◀ Far left: A trainee retrieves his bug-out bag under the supervision of a range officer as his partner covers him by engaging hostiles.

◀ Near left: The author engages a pop-up target with his Inter Ordnance AKM during one of the live-fire drills.

hatchet, military-style P38 can opener, primus stove, small pot, multitool and a fixed-blade knife. These are necessary for building fires, creating a spit for roasting, and for opening and heating canned goods.

Russ also pointed out that MREs and other processed high-energy foods were useful to have when on the move. Just make sure you periodically rotate your food supply.

Fresh water can be made with water purification pills or drunk through purification straws. Because many water purification pills are iodine based, they might not be advisable for people allergic to iodine.

Shelter: Russ likes ponchos for temporary shelter, because they are light, easy to carry, keep you dry, hold heat in bad weather and protect you against dew when you're sleeping. And, of course, a good lensatic compass and map are necessary for navigation during the day. An LED flashlight is essential, along with a small solar battery charger to

keep its batteries charged.

Personal hygiene and first aid:

These areas involve carrying things such as toilet paper, individually wrapped sanitary wipes, a mirror for viewing those hard-to-see areas of the body and a first aid kit with antiseptic and supplies to control bleeding. It's also important to have at least two weeks' supply of any medications needed to control serious disorders, such as diabetes, high blood pressure, seizures, etc.

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This is a lot of stuff to put in your bug-out bag and carry around. Add to this a long gun, hand gun and spare ammo, and you're probably looking at about 50 pounds of gear.

Most of us aren't going to get more than a couple of miles away from our cars before we're mighty tired and start shedding gear. That's why Russ showed us how to create a "go-bag" by using a small backpack or carry case. The go-bag is filled with only the bare essentials from the bug-out bag in your car so you can travel light, fast and far on foot, especially if your vehicle becomes unusable due to mechanical failure, fuel shortage or highway congestion.

DRILLS

The firearms drills began just before noon. I used my Inter-Ordinance AKM with Hornady SST ammo and my Glock 43 with Freedom Munitions' SuperMatch load in a Rusty Sherrick holster.

The trainees split into two teams. Russ tasked Team 1 with cooking chicken and beans using only what they had available in their bug-out bags.

On command, Team 1 formed up and simulated an armed crossing of an open field, set up a Primus stove, opened bean cans and cooked them on the Primus. They also cut branches, making a primitive rotisserie, put the chickens on the spit, gathered wood and built a cooking fire.

While Team 1 cooked, Team 2 began shooting drills to show Russ that the team members had the shooting skills needed for more-advanced drills. When Team 2 finished shooting, its members also formed up, crossed the field and communicated with those members of Team 1 who set up its defensive perimeter, asking permission to share some of the food being cooked. When permission was granted, Team 1's members proceeded to demonstrate their gunhandling skills while Team 2 finished cooking lunch.

After lunch, the afternoon was filled with more shooting drills. These involved either single individuals or two-man teams that engaged multiple targets while performing such tasks as advancing and retreating using multiple objects for cover, moving and shooting, and retrieving and putting on backpacks. These tasks were all accomplished while engaging hostile targets and bailing out of vehicles to seek more-solid cover—also while engaging hostiles.



◀ Vehicles are not cover! A trainee dismounts quickly when attacked while behind the wheel and runs to hard cover.

"... ARE WE PREPARED TO RELOCATE IN THE EVENT OUR HOMES BECOME UNINHABITABLE AND THE DISRUPTION IN SERVICES LEADS TO CIVIL DISORDER?"



◀ Russ Adler demonstrates how to quickly put on his bug-out bag so he can get back in the fight as fast as possible.

SOURCES

Adler Associates International
www.Dedicated-Professionals.com

Freedom Munitions
(208) 746-3668
www.FreedomMunitions.com

Glock Pistols
(770) 432-1202
www.Glock.com

Hornady Ammunition
(800) 338-3220
www.Hornady.com

Rusty Sherrick Holsters
(570) 746-0259
www.C-Rusty.com

GRADUATION

Training concluded with a debriefing by Russ and a graduation ceremony. All the trainees felt they had learned a lot during the course.

For me, it was a worthwhile experience. I am confident this course would benefit anyone who seriously wants to prepare for a disaster-related insurgency. **ASG**

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V-033

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ADVENTURE

FIEL

V-13

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Released late June 2016, the **QUICK SKIN** and the **FIEL** are from different worlds, but both designed by TOPS' President Leo Espinoza. One is an excellent hunting knife designed to facilitate processing game both large and small. The other is a last resort/EDC double-edged knife made mostly for tactical and self-defense purposes.

BLACK POWDER *DOOMSDAY DEFENSE*

THERE IS A PLACE IN LONG-TERM SURVIVAL PLANNING FOR BLACK POWDER AND MUZZLELOADING FIREARMS.

BY JOHN HIGGS

The modern survivalist movement gained momentum in America in the 1970s and was partly due to the Cold War between a coalition of the United States, Britain and Western Europe on one side and the Soviet Union and its Eastern European satellite countries on the other.

In his two books, *Survival Guns* and *Tappan on Survival*, in addition to his newsletter, Mel Tappan explained how the average person could prepare to survive the breakdown of society in the event of World War III and other cataclysmic events. Today, the threat of global nuclear warfare has been replaced by the threat of a breakdown of society brought about by a collapse of one or more major nations' economies, the ongoing threat of terrorism throughout the world and outright war in the Middle East.

Naturally, most gun owners look to modern firearms for their survival and personal

protection needs. Semiauto rifles and pistols, revolvers and almost all types of shotguns are the most widely used. One thing they all have in common is the use of modern, smokeless cartridge ammunition.

Many shooters also manufacture their own cartridge ammunition, which, given some of the recent ammo shortages in retail stores, is often a good alternative supply—at least for as long as the supply of components lasts.

BACKGROUND—RIFLING TO PERCUSSION CAPS

While most muzzleloader barrels were smooth bore (and many still are today), in the mid-1500s, some were built with parallel, narrow grooves along the length of the bore to slow down the buildup of gunpowder residue fouling in the barrel.

This first attempt at rifling did little to improve the accuracy of a lead ball, but at some point, somebody decided to cut the





► Above, left: This Ruger Army 44-caliber cap-and-ball revolver is a modern replica that hits hard with round balls or conical bullet loads.



► Above, right: Old meets new. This ATV allows the hunter to cover a lot of ground, while the rifle rack enables a quick shot from the saddle.



► Right: Whether hunting game or bad guys from an ATV, the wise shooter wears camo.

grooves with a slight twist along the length of the bore. This imparts a spin on a modern bullet in the same way a quarterback puts a spin on the ball to stabilize it in flight and make it more accurate. A lead ball has such a small part of its surface in contact with the rifling that it doesn't improve accuracy very much.

Of course, muzzleloaders are still very popular today for hunting game such as rabbits, deer and turkeys. After all, survivalists have to eat, just like anyone else.

The event in 1807 that brought about the eventual use of modern ammunition and self-loading semiautomatic and full-auto firearms was the invention of the percussion cap by a Scottish clergyman named Alexander John Forsyth. Prior to the percussion cap, the flintlock muzzleloader depended on a piece

“SOME PARTS OF AMERICA MAINTAIN A LONG TRADITION OF BLACK POWDER MUZZLE-LOADING FIREARMS ... ”

of flint scraping against a piece of steel to generate a spark to ignite the powder charge. The percussion cap consisted of a tiny metal cup containing a small amount of a pressure-sensitive priming agent—fulminate of mercury—that produced a hot flame when struck.

The percussion cap moved firearms development away from the flintlock muzzleloader to a more reliable ignition system for black powder firearms. It also paved the way for the eventual creation of modern cartridge ammunition ignited by a pressure-sensitive primer.

REVOLVING PISTOL

The next big leap forward in firearms was in the 1830s with Samuel Colt's design for a revolving pistol. Each chamber in the cylinder held a powder charge and a bullet, which was loaded from the front of the cylinder and ignited by a percussion cap on a hollow nipple at the rear of each chamber.

The design worked not only for pistols, but also for rifles, muskets, carbines and shotguns.



◀ *Left:* This custom percussion lock shoots straight ... if the shooter does their part. Necessary items include a powder horn, ramrod and a "possibles" bag.

at Friendship, Indiana, draws thousands of shooters. At muzzleloading matches and other gatherings around the country, it is possible to learn various skills—for example, how to cast lead balls over a campfire from wheel weights and other junkyard lead items.

With so many excellent modern firearms that fire cartridge ammunition, why even consider a 19th-century-designed black powder, smoothbore firearm for anything other than recreation? One reason is that in some cases, a person prohibited by law from legally possessing a modern firearm might still be able to possess an antique firearm under federal law.

However, keep in mind that possession of that firearm might still be a crime under state law, depending on which state the person is in. State and local firearms laws are a patchwork of different conditions across the country.

Responsibility for obeying all laws rests with the individual. **ASG**



WEAPONS, NOT ANTIQUES

Some muzzleloaders do require a background check. Here is some information from the ATF website on legal ownership:

"The following is a list of weapons that load from the muzzle and are classified as firearms, not antiques, under the GCA, because they incorporate the frame or receiver of a firearm—

- ◀ **Savage Model 10ML** (early, first version)
- ◀ **Mossberg 500 shotgun with muzzleloading barrel**
- ◀ **Remington 870 shotgun with muzzleloading barrel**
- ◀ **Mauser 98 rifle with muzzleloading barrel**
- ◀ **SKS rifle with muzzleloading barrel**
- ◀ **PB sM10 pistol with muzzleloading barrel**
- ◀ **H&R/New England Firearm Huntsman**
- ◀ **Thompson Center Encore/Contender**
- ◀ **Rossi .50 muzzleloading rifle**

This list is not complete and frequently changes. There may be other muzzleloaders also classified as firearms. As noted, any muzzleloading weapon that is built on a firearm frame or receiver falls within the definition of a firearm provided in 18 U.S.C. § 921(a)(3)."

Finally, even though a prohibited person may lawfully possess an antique firearm under federal law, state or local law might classify such weapons as "firearms" that are subject to regulation. Any person considering acquiring a black powder weapon should contact his or her state attorney general's office to inquire about the laws and possible state or local restrictions.

A list of state attorney general contact numbers can be found at www.NAAG.org.

Revolving pistols, such as the Patterson Colt, in particular, were game-changers for soldiers on horseback. Big Colt revolvers such as the Dragoon were a new technology that far exceeded the smoothbore musket and the Kentucky rifle for accuracy and rapid shooting. With a steady aim, it was capable of hitting a man-sized target at 100 yards.

In addition, some pistols for Army use were issued with a detachable shoulder stock, which turned the pistol into a short-barreled carbine. This illustrates an important point: While black powder firearms have been made obsolete by today's magazine-fed, cartridge-firing firearms, in the hands of a competent shooter, they can still make some pretty accurate holes in paper targets—and living tissue—at realistic distances.

BLACK POWDER VS. SMOKELESS CARTRIDGES

A quick search on the Internet brings up various queries from shooters about the practicality of using black powder firearms for self-defense. Most answers seem to indicate that modern, smokeless cartridge ammunition is still the best way to go.

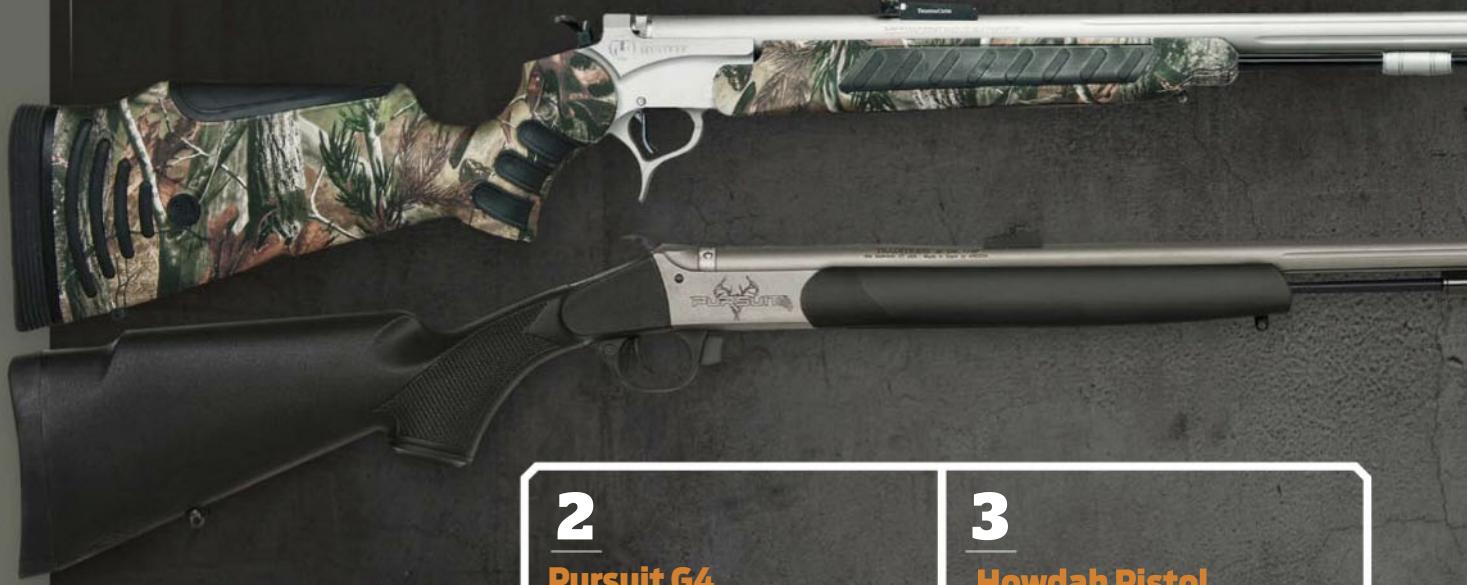
For one, there is a risk that firearms loaded with black powder might absorb moisture over time, which would affect the gun's reliability. Some people advocate reloading the gun every day to prevent misfires from damp powder. Sure, Bill Hickok and his contemporaries literally lived (and died) by the percussion cap firearm, but today, modern, smokeless cartridge ammo provides a far better option.

Perhaps the most practical survival scenario would be to keep the modern firearms and cartridge ammunition for personal protection and hunt for food with the smoothbore black powder guns. This is nothing new.

Every deer hunting season, people with concealed-carry permits and modern revolvers and semiauto pistols swap them for a hunting license and a muzzleloading rifle. Some parts of America maintain a long tradition of black powder muzzleloading firearms, especially in the Midwest, where the National Muzzle Loading Rifle Association's annual Rendezvous

MODERN BLACK POWDER ALTERNATIVES

The following are examples of current-production black powder firearms that might provide a suitable alternative to cartridge ammunition guns.



1

Camo Encore Pro Hunter FX

This modern-day muzzleloader comes with a speed breech plug for easy cleaning and an ignition system that uses a standard #209 primer. The adjustable fiber-optic sights allow for fast sight picture acquisition in low-light situations when a standard black sight isn't as easy to pick up.

This rifle is classified by the ATF as a firearm, so federal laws apply.

Specifications

- Caliber: .50
- Barrel length: 28 inches
- Overall length: 42.5 inches
- Weight: 8.25 pounds
- Rate of twist: 1:28 inches

MSRP

\$862

URL

www.TCArms.com

2

Pursuit G4 Ultralight Rifle

The G4 brings hunting with a muzzleloader into the 21st century. This latest Pursuit rifle has the Accelerator Breech Plug, which can be removed/installed without tools and with three revolutions of the plug.

It can be used with standard #209 shotshell primers, Buckhorn 209 powder, Pyrodex pellets and loose powder. The plug has a flat face and an O-ring that reduces blowback and improves ignition. The G4's external surfaces are coated with Cerakote.

We've all heard stories about hunters falling out of their tree stands, so it's comforting to know that the G4 incorporates both an internal hammer block safety and a trigger block safety. It also comes with a Williams fiber-optic metal sight, sling swivel studs and aluminum ramrod (to protect the barrel and avoid creating a spark in the bore). The receiver is drilled and tapped for a scope.

Specifications

- Caliber: .50
- Barrel length: 26 inches
- Overall length: 42 inches
- Weight: 5.75 pounds
- Rate of twist: 1:28 inches

MSRP

\$344

URL

www.TCArms.com

3

Howdah Pistol

It's strange to think that anyone would need to design a pistol specifically to defend against lions and tigers attacking an elephant, but that is exactly what the 19th-century Howdah pistol was used for.

When India was a part of the British Empire and under control of the British Raj, hunting from a wooden platform called a "howdah" placed on the back of an elephant was popular. Lions and tigers often attacked the elephant, so a short, hard-hitting gun was developed as a defense. The Howdah was so popular that some British army officers stationed in remote parts of the empire carried them for personal protection.

Today, Pedersoli manufactures a double-barreled Howdah muzzleloader pistol in 20-gauge with walnut stocks. Make sure you check local, state and federal laws before purchasing.

Specifications

- Bore/caliber: 20-gauge smoothbore; black powder only
- Barrel length: 11.25 inches
- Overall length: 17.75 inches
- Weight: 4.5 pounds
- Projectile: Buckshot and/or slug

MSRP

\$800

URL

www.Davide-Pedersoli.com

www.Cabelas.com

4

Traditions 1858 Army Revolver

This single-action Traditions revolver is modeled on the Remington 1861 Army model—a six-shot cap-and-ball revolver that has a short spur hammer.

The original Remington Army model was made by Colt, but when the Colt patent expired, other manufacturers, such as Remington, produced their own, slightly modified Colt copies. The most significant upgrade from the original Colt pistol was the addition of the steel top strap above the cylinder, as shown in the Traditions 1858 revolver. This greatly added to the strength of the frame. The .44-caliber revolvers used in the Civil War were the best fighting handguns of their time.

Specifications

- Caliber: .44
- Barrel length: 8 inches
- Overall length: 14.5 inches
- Weight: 2.8 pounds
- Steel frame

MSRP

\$350 to \$490

URL

www.TCArms.com

1

◀ Modern materials and design make cleaning easier and provide reliable ignition.

2**3**

◀ Davide-Pdersoli has produced a classy reproduction of a great revolver, complete with engraved frame and brass trigger guard.

4

◀ Traditions' 1851 Navy pistol is a .44-caliber version of the original .36-caliber Colt Navy pistol.

5**5**

Navy Engraved .44-Caliber Nickel Black Revolver

This modern black powder version by Traditions of the 1851 Navy pistol is chambered for .44-caliber ball, but the original 1851 Navy revolver was an attempt to make a smaller, more manageable version of the large, heavy, .44-caliber Colt Dragoon.

This scaled-up .44 caliber Traditions model features simulated ivory grips, nickel finish and engraving.

Note that company's website states, "WARNING: Black powder firearms cannot be shipped to New Jersey, New York City, Illinois, Michigan, or Canada."

Specifications

- Caliber: .44
- Barrel length: 7.3 inches
- Overall length: 13.5 inches
- Weight: 2.7 pounds
- Steel frame

MSRP

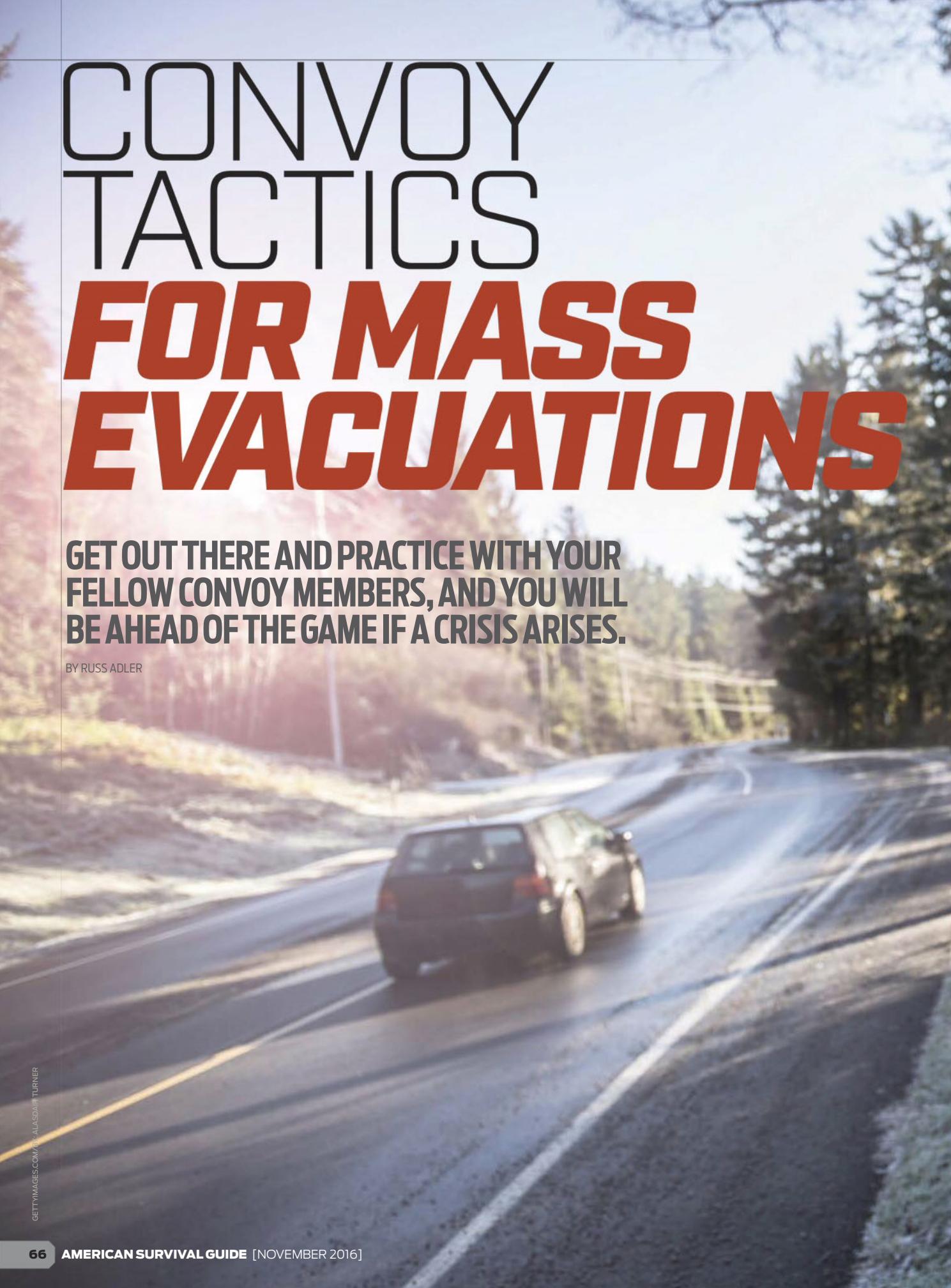
\$399

URL

www.TCArms.com

"MUZZLELOADERS ARE STILL VERY POPULAR TODAY FOR HUNTING GAME SUCH AS RABBITS, DEER AND TURKEYS."

CONVOY TACTICS **FOR MASS EVACUATIONS**



GET OUT THERE AND PRACTICE WITH YOUR FELLOW CONVOY MEMBERS, AND YOU WILL BE AHEAD OF THE GAME IF A CRISIS ARISES.

BY RUSS ADLER



TSUNAMI
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ROUTE



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Something has gone wrong, and you can't stay put. What is your plan? Where will you go, and how will you get there?

Your plan should have been prepared and rehearsed prior to this. You do have a plan, don't you? And you have practiced it, right?

Regardless of where you start from (home, work, relative's home, etc.), you should have three pre-planned places to go—just in case the first two choices are not feasible.

Your family truck/grocery-getter has just become a logistical transport/support vehicle that will be part of a focused, mission-based convoy operation. You will be interacting with friendlies, hostiles and insignificants until the mission is complete, at which time you will have arrived at your final destination.

The focus of this article covers traveling in concert with more than one vehicle. A key factor in this regard is, obviously, staying together. During catastrophic events, people lose their minds—especially those who aren't prepared. Consequently, it is paramount for friends and family members to stick together, because there is strength in numbers.

Keep in mind that we are talking about vehicles in transit with one or more occupants whose intended goal is to arrive together at a predetermined location with little to no adverse incidents along the way.

RULES OF THE ROAD

The most common ways to become separated while moving in concert are switching lanes on a multi-lane roadway, such as a major highway or interstate, or while being directed to take turns at an intersection.

There are a couple of different ways to ameliorate these scenarios, some of which require practice before you are thrust into said scenario. (Notice the recurring theme of *practice and preparation?*) Regardless of what scenario you are faced with when driving, you must have a solid understanding of your vehicle's potential and durability, as well as knowing your personal limits in controlling your vehicle during dynamic situations and any unpredictable road conditions.

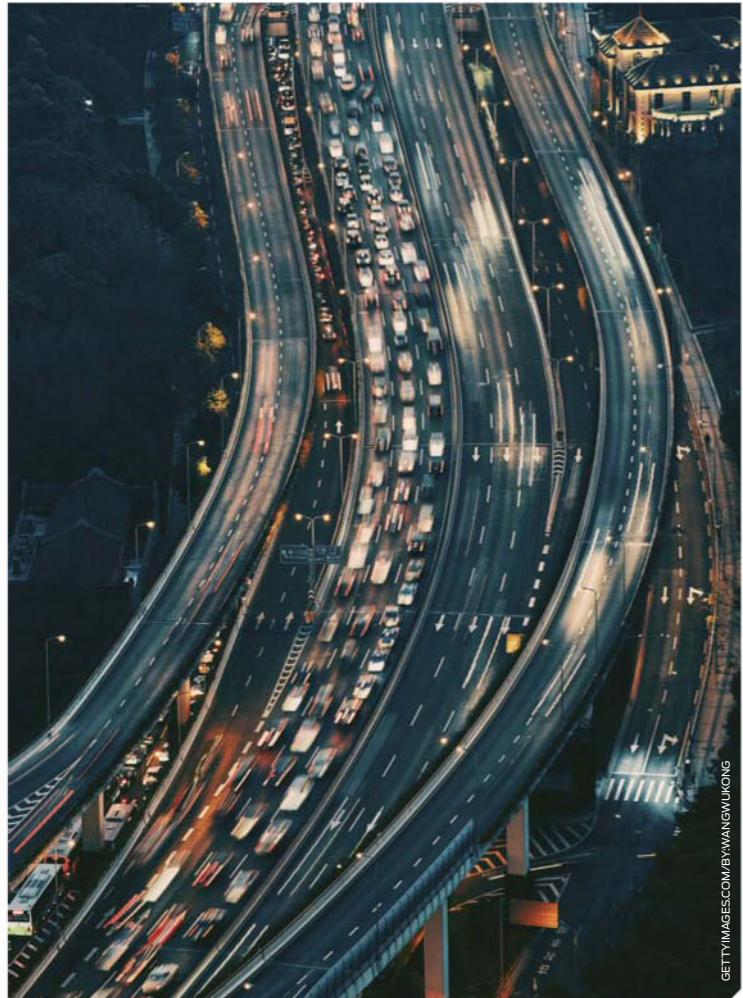
First and foremost when trying to stay together when driving, the rules of the road go out the window. If you find yourself approaching an intersection at which the traffic light is out or an officer is directing traffic, common courtesy should be an afterthought.

That is to say, when it is your turn to go,



“RECOVERY EQUIPMENT, SUCH AS TOW STRAPS, COME-A-LONGS OR WINCHES, SHOVELS AND PRY BARS, SHOULD BE INCLUDED IN YOUR VEHICLE.”

» Above: Repairs being made to the Catskill Mountain Railroad in Ulster County, New York, following Hurricane Irene



» Evacuation routes from threatened populated areas will be slow and stressful and will subject you to additional exposure to the very event you're trying to escape from.

GETTY IMAGES/COMBY/WANGWUKONG

gesture over your steering wheel or roll your window down and extend your arm outside (weather and safety permitting) and show by count of fingers how many vehicles are traveling in your caravan. Each vehicle should do the same, with the number of fingers matching the number of vehicles left behind it.

It is important that no room is left between the convoy vehicles for a stray vehicle that is not part of your group to creep in. Rubbing a little bit of bumper paint off is not going to hurt the ability of the vehicle to continue on, so stay close together.

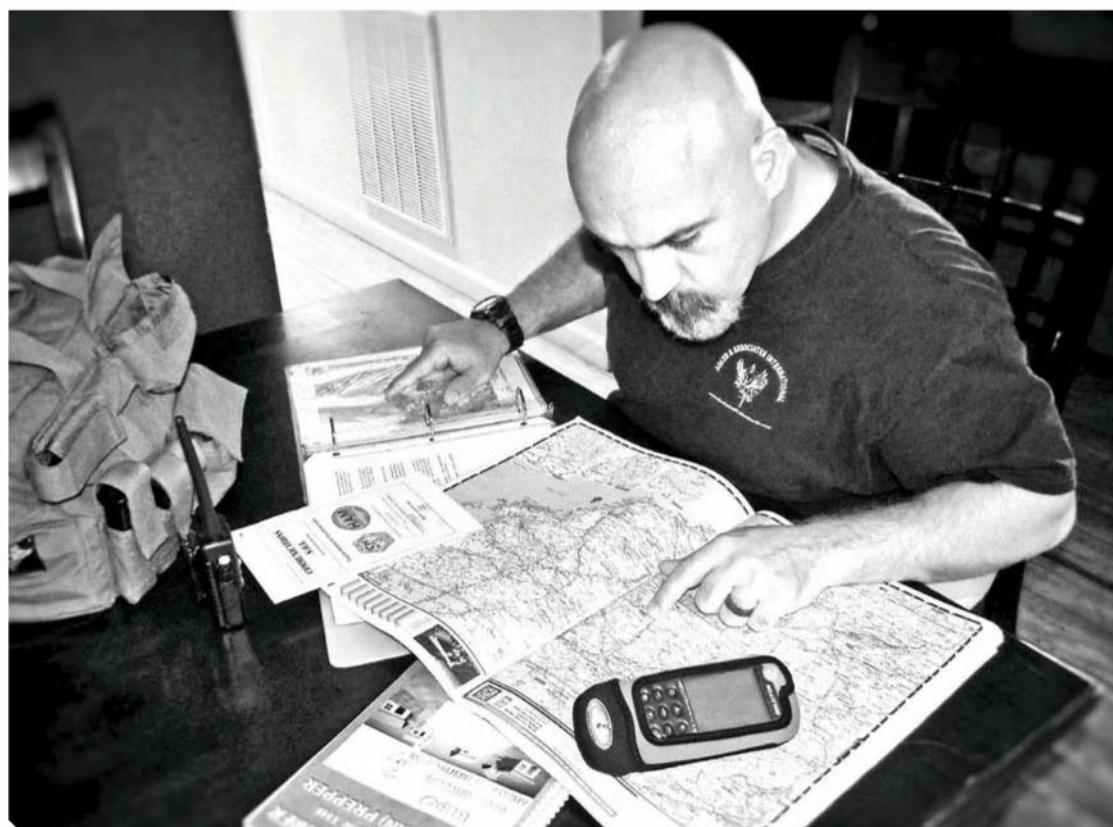
Sure, it is going to upset the other folks who are politely waiting their turn, but adverse repercussions for *not* staying together can be separation by any number of vehicles. This will result in missed turns, redirection to an unplanned detour (causing further separation) and/or breaking down without immediate support or becoming targeted by an opposing force, etc.

When there is a reason to change lanes in moderate to heavy traffic conditions while you are trying to stay together, a little bit more planning and coordination are involved. When the vehicles in your group are moving, the odds of becoming separated increase. This is why it is important to have a plan and practice it before you absolutely need it during a stressful event.

“DURING CATASTROPHIC EVENTS, PEOPLE LOSE THEIR MINDS—ESPECIALLY THOSE WHO AREN’T PREPARED.”



◀ Above: Isle De Jean Charles, Terrebonne Parish, Louisiana, after Hurricane Gustav



◀ Careful route planning and multiple practice runs will pay big dividends when trouble comes your way.

MASS EVACUATIONS BY THE NUMBERS



The majority of information regarding catastrophic events is reported in fatalities and monetary damages. By taking a look at these types of figures, we can estimate the number of people who travel during these times. Some of the most recent large-scale events across the country can offer a gauge to help you formulate your relocation planning for the next disaster that might affect you.

▲ AUGUST 1992: Hurricane Andrew affected 2.4 million people in four Gulf Coast states between Florida and Louisiana by either mandatory evacuation or forced relocation by destruction of home or property.

▲ AUGUST 2005: Hurricane Katrina led to a mass evacuation of New Orleans, Louisiana, with approximately 80 percent of the city's population of 484,000 evacuating before the storm struck. Main recovery efforts lasted approximately three months, with ancillary support operations going on for six months. While this storm affected other states and

cities, New Orleans was hit the hardest—and, to this day, hasn't fully recovered.

▲ SEPTEMBER 22, 2005: More than 3 million people were evacuated in Texas and Louisiana due to the approach of Hurricane Rita. This is the largest evacuation in U.S. history and the third-largest peacetime evacuation in modern times. The evacuation rush caused a 100-mile-long traffic jam that began in Houston and caused vehicles to overheat, break down and run out of gas.

▲ OCTOBER 2007: Wildfires forced more than 900,000 people in Southern California to evacuate, making it the largest evacuation in California's history and the largest evacuation for fire in United States history.

▲ AUGUST 2011: A mass evacuation stretching from North Carolina to New York and involving 13 states and hundreds of thousands of residents was ordered because of Hurricane Irene. The initial effects lasted for three days

before residents began returning to their homes for recovery efforts.

▲ OCTOBER 2012: Hurricane Sandy left 6 million residents without power in 15 states for approximately five days, with 200,000 left homeless for several months after the event.

▲ DECEMBER 2015 THROUGH JANUARY

2016: Midwest flooding of the Mississippi River region affected areas where 9.3 million people live in 17 states. The hardest-hit areas were in southern Illinois, Missouri, Arkansas and Oklahoma, with hundreds of homes destroyed and thousands of people displaced.

▲ MAY 2016: Approximately 88,000 people were evacuated from Fort McMurray, Canada, due to a wildfire that grew quickly out of control. This was the largest evacuation in the province of Alberta's history. At the time of this writing, recovery efforts are still underway, and many are without homes to return to.

Knowing your route and where upcoming turns and deviations are will help the drivers of each vehicle judge the need to adjust speed and shift lanes (by reading traffic patterns, weather, warning signs, road conditions, etc.). No matter how many vehicles are in the convoy, the rear vehicle initiates the shift so it can block the lane in front of it, allowing the vehicles in front of it to move into the lane without another vehicle interrupting the convoy. If all the

drivers in the group are on the same page and have practiced this type of driving while going on trips with family and friends, this is a simple task (for others, well, not so much).

If needed, the lead vehicle should initiate a signal—either by radio, hand or flipping the turn signal on the vehicle, at which time the others follow suit until the last vehicle receives the message and executes the block. Easy, right?

Not if you have never done it. You can't practice these skills enough to be ready for the real thing when it decides to pay you a visit.

CHANGING DIRECTION

You might find yourself approaching an impassable area and must turn around. Remember, we're talking about multiple vehicles here, so there is a process that involves efficiency

► Ryan Alaniz, aged 6, waits for his parents to load the family car and evacuate the KOA Campground along Soledad Canyon Road near Acton, California, as the Sand fire approaches on Sunday, July 24, 2016.



and economy of motion. Depending on the circumstances, the signal is made that a reverse in direction is necessary.

The lead vehicle will initiate this by executing a three-point turn. Instead of completing the full turn, this vehicle will remain in between the number-two and -three positions of the three-point turn, blocking any oncoming traffic that could interfere with or separate the group while the other vehicles execute their turns. Each vehicle stays in the same order. The only difference is that the former rear vehicle is now in the lead position, and the former lead vehicle is now in the rear position. At an appropriate time and location, the vehicles can switch positions in order to maintain the integrity of the group by keeping the navigation vehicle in the lead.

RALLY POINTS

If, for some reason, your group gets separated, it is good to have a contingency plan to rendezvous at a pre-determined location. Once there, your group should conduct a head count and status check. These locations can be hastily chosen places of opportunity or set areas that have been pre-scouted and marked on maps as part of the convoy's predetermined plan if vehicles are separated and/or without a means of communication.

As far as communications go, redundancy and depth are recommended. Cell phones are great ... until the networks are overwhelmed during a catastrophic event. Handheld radios in the CB, FRS, GMRS and MURS frequencies are cost-effective solutions. Their only limitation is range. A step up to the HAM radio frequencies that require a license to operate will increase your range and capabilities, especially with a vehicle-mounted system with an extended antenna.

Recovery equipment, such as tow straps, come-a-longs or winches, shovels and pry bars, should be included in your vehicle. These can be used in a variety of circumstances, not just during mass evacuation scenarios, and can go a long way in establishing rapport with someone to whom you might be able to offer assistance.

Other skills and considerations to implement in your travel planning are your loadout and the ability to change vehicles if one goes down. As mentioned earlier, the worst time to accomplish this is when you need it the most—while stress is up and the stakes are high. So, get out there and practice with your fellow convoy members, and you will be ahead of the game if a crisis arises. **ASG**



"IF, FOR SOME REASON, YOUR GROUP GETS SEPARATED, IT IS GOOD TO HAVE A CONTINGENCY PLAN TO RENDEZVOUS AT A PRE-DETERMINED LOCATION ... "

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LOST AND FOUND

**WHEN YOU FIND YOURSELF LOST
AND ALONE DEEP IN THE SUCK,
HAVING THE RIGHT GEAR CAN HELP
BRING YOU HOME**

BY WILL DABBS, M.D. / PHOTOS BY SARAH DABBS

Despite unprecedented urban sprawl, it is still not too hard to get lost. With disheartening regularity, the 24-hour news stream spews stories of folks who found themselves facing life-threatening circumstances as a result of mechanical breakdowns, navigational failures or just pure bad luck.







Here are just a few items that will help get you home.

OFF THE GRID OR IN FOREIGN LANDS

1. The SPOT Gen3 Global Satellite Messenger

The SPOT Gen3 Global Satellite Messenger is a tiny armored device that transmits tracking information to your designated contacts from almost anywhere on the planet. Features include the capacity to transmit pre-programmed custom



▲ Above: Left to right: the SPOT Trace, Garmin Oregon 650T, SPOT Gen3 Global Satellite Messenger, Garmin eTrex 30X GPS

messages, an emergency SOS feature, a check-in feature that lets contacts know you are well and a request-for-help function.

This device provides a critical, life-saving line of communication independent of cell coverage. SPOT has been responsible for more than 4,500 live, real-world rescues since its inception. All SPOT devices require a monthly subscription fee.

MSRP: \$169.95

www.FindMeSpot.com

2. The SPOT Trace

The SPOT Trace is a compact, inconspicuous design that can be attached to almost anything of value. It reports motion and can be located via a phone or personal computer. Using 100 percent satellite technology, this device automatically sends text messages to update the user about the precise location of a critical item.

Whether that item is an automobile, boat or a child's backpack, the SPOT Trace lets you keep track of anything, anywhere.

MSRP: \$119.95

www.FindMeSpot.com



◀ Far left: The SPOT Gen3 Global Satellite Messenger has a big reach but a small footprint, making it easy to keep with you.

◀ Left: The SPOT Global Phone is the perfect comms wingman wherever cell phones come up short.

◀ Far left: The SPOT Global Phone allows you to call or text when you're way off the grid.

3. The SPOT Global Phone

The SPOT Global Phone uses satellite technology to allow the user to make crystal-clear calls from just about anywhere in the world. This device provides access to the GEOS International Emergency Response Coordination Center, as well. This compact phone includes voicemail capability, along with the capacity to send and receive 35-character text messages. With an optional data kit, SPOT phones also allow you to follow your e-mail anyplace, anytime.

MSRP: \$549.95

www.FindMeSpot.com

4. The Garmin eTrex 30X

The Global Positioning System has revolutionized navigation in the Information Age. The Garmin eTrex 30x is a full-function, handheld GPS navigation system with a built-in three-axis compass. A 240x320 display offers superb resolution, and the device's internal memory holds an extensive map library.

The eTrex's worldwide basemap features shaded relief, and its 2.2-inch color display is readable, even in bright sunlight. The eTrex also incorporates a built-in barometric altimeter.

The compass is accurate, regardless of the orientation. The barometric altimeter function tracks ambient changes in pressure to help you plot weather patterns. The eTrex has an expanded 3.7 GB internal memory and includes a microSD card slot for further expansion. Pre-loaded charts available via subscription let you download satellite images and integrate them with onboard maps. Garmin products are time tested and weather resistant.

MSRP: \$299.99

www.Garmin.com

5. The Garmin Oregon 650T

The Garmin Oregon 650T satellite GPS navigation system includes a 3-inch, sun-light-readable touchscreen. The unit also includes an 8-megapixel autofocus digital zoom camera with built-in flash/torch capability. An internal three-axis compass incorporates both an accelerometer and barometric altimeter sensor. The Oregon 650T unit runs off two standard AA batteries or an included rechargeable NiMH battery pack.

An advanced elevation plot lets you easily compare elevations between locations. An improved and enhanced trip computer comes packed with many handy features. An activity tracker helps you keep track of waypoints, geocaches and accumulated activities. Advanced waypoint management features allow the operator to maintain all the pertinent data on a single screen.

MSRP: \$549.99

www.Garmin.com

◀ This compact polymer flare pistol from Orion Safety Products is sold uncontrolled at the author's local Wal-Mart. The gun, along with four 12-gauge flare cartridges, costs \$50.



◀ Gyrojet foliage-penetrating pen flares are standard components of military aviator survival kits. These metal-cased flares launch from their lightweight pen gun launcher and do, indeed, enjoy impressive penetration.



◀ A mirror is a superb low-tech, stupid-proof signaling tool.



◀ A dedicated military survival radio can be a superb piece of survival kit, but the technology can also be prohibitively expensive.



ON THE SEAS OR OFF THE ROADS

1. The Signal Mirror

I saved a man's life on the side of Mount McKinley, Alaska, many years ago when I served as an Army helicopter pilot. The guys who were with the injured man got my attention during an otherwise routine training flight by using a basic signal mirror. A mirror is a superb low-tech, stupid-proof signaling tool.

Dedicated versions sport an aiming hole in the center. However, any sort of reflective material can project a flash of sunlight onto a passing aircraft, boat or vehicle with remarkable effectiveness from miles away, even in hazy conditions. The injured gentleman I snatched off that frozen mountain a long time ago owed his life to the effectiveness of this most basic survival staple.

MSRP: \$19.95

www.BestGlide.com



2. The Survival Flare Gun

The flare gun I purchased over the counter at my local Wal-Mart has four rounds and costs around \$50. Spare ammo is \$5 per round. The downrange results were spectacular beyond my wildest expectations.

Foliage-penetrating pen flare guns are standard-issue military aviator survival equipment. These compact, little pen guns launch rocket-propelled flares based on the otherwise short-lived Gyrojet designs developed in the 1960s. The flares incorporate a pair of venturi openings in their bases through which jet exhaust is expelled at an angle to effect spin stabilization.

Orion Safety Products produces the modern civilian flare pistols and their plastic-cased ammunition. The all-polymer pistol is a simple tip-up, single-barrel design with an exposed hammer and steel firing pin. The 12-gauge flares look like mutant shotshells and extend all the way to the muzzle.

The flares burn at 16,000 candela for seven seconds and reach an altitude of about 500 feet. In layman's terms: They are really bright. The lightweight plastic gun carries four rounds in an ammo carrier attached to the butt. The bore is constricted at the mouth to prevent standard 12-gauge rounds from being chambered.

Unless my chronograph readings were way off, these flares travel at around 1,600 fps. The difference in mass between a loaded and fired shell is 125 grains. Disregarding propellant weight, that calculates to about 780 foot-pounds of energy—more raw power than you will find in a .357 Magnum.

MSRP: \$49.95

www.OrionSignals.com

◀ This string of photos shows the downrange effects of a standard survival flare purchased at the author's local Wal-Mart when fired against $\frac{1}{8}$ -inch plywood and then another fired into the air. The effects on the target were breathtaking.

THE BREITLING PERSONAL BEACON

Emergency survival kits range in price from almost nothing to ludicrous. However, if you have sufficiently deep pockets, the folks at Breitling produce the ultimate Personal Survival Beacon. Built into the peerless, high-end sport watches for which the company is justifiably famous, the new Breitling emergency dual-frequency PSB is unrivaled.

Breitling has produced sport watches since 1995 that interface with the international Cospas-Sarsat system. The micro-transmitter imbedded in the original watch design operates on the recognized standard 121.5 MHz and has been responsible for saving several lives already via the international Search and Rescue Satellite system.

However, the Sarsat system is transitioning to a dual-frequency modality that also includes a new digital component. This new system will cut down on false alarms and allow more-accurate homing. The new Breitling PSB incorporates both aspects of this emerging technology in a platform small enough to ride comfortably on your wrist.

Deploying the Breitling PSB as a locator

beacon involves extending the two stowed antennae located on opposite sides of the instrument. The beacon activates automatically with antennae deployment, and the instructions for operation are inscribed on the watch, itself.

The power demands for such a device require literally unprecedented levels of reliability and miniaturization. As a result, Breitling partnered with state-of-the-art leaders in the field to develop a revolutionary, tiny rechargeable power source for the beacon component of the device. The entire apparatus rides within a robust titanium case, and the thermocompensated SuperQuartz movement is 10 times more accurate than typical Swiss chronometers. There are also digital and analog displays, along with a multilingual calendar, alarm and timer functions.

The newest Breitling PSB will set you back \$8,000. However, what you get for that significant investment is an instrument that will look awesome on your wrist and bring the cavalry to your rescue anywhere on the planet. (And it also reliably tells the time.)

MSRP: \$8,000

www.Breitling.com



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GEAR GUIDE



POP-UP PROTECTION

DIVERSE INSTANT SHELTERS TO PROTECT YOU FROM MOTHER NATURE'S WRATH

BY MICHAEL D'ANGONA / PHOTOS COURTESY OF THE MANUFACTURERS

Shelter is one of your main "core four" essential survival categories. Take one worry off your to-do list with a durable, quick-setup tent.

A tent can be a lifesaver if you lack the necessary energy to build a shelter from scratch or if there are no man-made possibilities in sight. Be worry free from biting or annoying insects while protecting yourself from harsh winds or intense rainstorms.

Just a millimeter or 2 of tough fabric can give you peace of mind as you lay back to get a good night's sleep, which is essential to stay sharp both mentally and physically during a survival situation.

The selection of tents available on the market today is diverse and specific for many different environmental conditions. From cold and wet conditions to extremely dry, hot or humid environments, there is a tent to suit your particular needs. Keep in mind that styles, weights, colors and setup configurations vary greatly in the tent world, so do your homework beforehand: Examine the weather conditions of the area on your intended path; know how many occupants and supplies are required for your journey; and finally, above all, choose a tent that appeals to you. Remember that it's going to be your home away from home for possibly days on end, so functionality, practicality and personal taste all go hand in hand. **ASG**



Stingray Tent

Overview

The Stingray Tent elevates your camping or survival experience to a new level. Suspend yourself above the ground and be free of nighttime predators or ground-dwelling biting insects. Setup takes just minutes. The tent supports more than 800 pounds, so you and your gear will be safe and comfy "floating" off the ground. Its interior consists of three spacious bays with a rip-resistant insect mesh top overhead. It offers a removable rainfly, industry-grade, heavy-duty buckles and reinforced composite floor fabric. The Stingray is a unique and practical shelter when sleeping on the ground just won't do.

Specifications

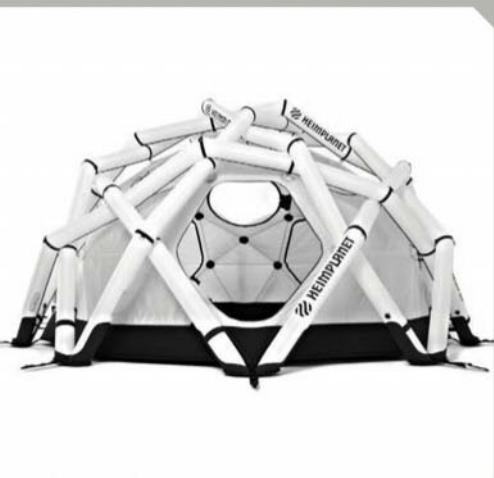
- 15-minute setup time
- Four-season protection
- 18-pound carrying weight
- Tear-resistant insect mesh
- Maximum load of 880 pounds

MSRP

\$650

URL

www.Tentsile.com



Maverick Tent

Overview

The Maverick is a multi-purpose shelter designed to withstand the incredible forces of nature. This "extreme conditions" tent is built to withstand winds speeds up to 112 mph while maintaining its geodesic shape.

It's perfect for your base camp high in the mountains or as a group tent on jungle or wilderness floors. The entire tent is pre-assembled and can be set up quickly and easily by one person via a simple hand pump (not included). Five doors and five closeable windows provide excellent ventilation and panoramic viewing. The Maverick comes complete with airframe, tent skin and carrying bag.

Specifications

- Intuitive and extremely fast pitching
- One-pump system for total inflation
- Stable in winds up to 112 mph
- Five additional guy line points for added stability
- Five entrances and five windows
- Multi-chamber safety system maintains stability

MSRP

\$6,500

URL

www.HeimPlanet.com



Spike III Tent

Overview

This wall tent offers comfort and spacious living with easy setup and takedown when time is not on your side. Included instructions illustrate how easily this shelter can be assembled when the elements turn bad and protection from Mother Nature becomes a must.

The unique, polyester-based fabric is extremely lightweight, waterproof and highly durable, making it ideal for everyday camping or longer-term wilderness adventures. It cleans easily, and its soft and pliable fabric make it simple to handle. It resists the damaging effects of ultraviolet rays better than nylon and is built to last for many years to come.

Specifications

- 5-inch Stovejack with weather flap
- Sewn-in, 10-ounce laminate vinyl floor
- #10 YKK zippered front screen door
- Tent storage bag
- Included instructional video

MSRP

\$1,609.97

URL

www.MontanaCanvas.com

GEAR

GUIDE



Nias

Overview

This innovative, inflatable tent offers a two-cabin design, giving ultimate storage room and comfortable living space for up to six individuals. The Nias features two entrances, ensuring easy access inside, two removable cabins that offer flexibility for occupants or gear, and a multi-chamber safety system that allows for easy repair in case of damage or defects. Enjoy up to four closeable ventilation points that allow perfect airflow from top to bottom. This highly durable tent is constructed of extra-stiff polyester and 100 percent ripstop nylon and comes complete with a pack sack, pegs, gear loft, mini ground sheet, pump adapter and a useful repair kit. The Nias is a true masterpiece that combines quality and functionality.

Specifications

- Extremely fast setup
- Double-layer air struts
- Four closeable ventilation openings
- Zippered front entrance
- "No-see-um" inner mesh
- Multiple storage pockets

MSRP

\$1,200

URL

www.HeimPlanet.com



Truck Tent

Overview

A wet or uneven campsite is no longer a problem with the Camo Truck Tent. This instant shelter allows you to utilize your pickup's open bed area to create the ultimate camping oasis. No longer are you locked into a location—you can camp wherever your truck can take you. Just attach the tent easily to your truck's bed and enjoy a clean, above-the-ground campsite that keeps you comfortable and dry. Experience spacious interior sleeping and storage room, a full rainfly and a large awning—perfect for shade and extra rain protection. The color-coded assembly system makes erecting this shelter a breeze. This tent is perfect for long-term survival or quick weekend getaways.

Specifications

- Mossy Oak Break-Up Infinity camouflage pattern
- 5.7 feet of headroom
- Full rainfly with window and door flaps
- Color-coded pole and sleeve assembly
- Expandable carrying bag for storage

MSRP

\$329.99

URL

www.NapierOutdoors.com



Beta Bug Tent

Overview

Flying, biting insects can destroy a great time in the wilderness. Escape their relentless barrage with the Beta Bug Tent. This tent sets up fast via two trek poles (which most hikers carry as part of their normal gear anyway). Its large and spacious interior has plenty of room for two, as well as extra supplies. Its "bathtub" floor design prevents water from seeping in from the outside. The tent is lightweight and works perfectly in tandem with a properly positioned tarp overhead.

Specifications

- Ultimate insect protection
- Taped seams
- Two-person occupancy
- Single mesh door
- Requires two adjustable trekking poles (not included)

MSRP

\$169.95

URL

www.BlackDiamondEquipment.com



Bipod Bivy

Overview

This single-person shelter offers quick and reliable cover from the harsh elements at night while remaining lightweight and compact when carrying it during the day. The Bipod Bivy utilizes one shock-corded Easton pole for support above your head, and its roll-down mesh panels allow air to circulate inside while keeping those pesky biting bugs out.

Taped seams and ToddTex single-wall fabric maintain the tent's durability without adding excess weight or bulk. This bivy is perfect for all seasons, so get out and explore wherever and whenever you want.

Specifications

- Four-season protection
- Large, zippered entry door
- Large mesh panel keeps insects out
- ToddTex single-wall fabric
- Single shock cord Easton pole over the head and shoulders
- Weighs under 2 pounds

MSRP

\$289.95

URL

www.BlackDiamondEquipment.com



Dome-To-Go Tent

Overview

This versatile tent attaches to your vehicle or works equally well as a stand-alone shelter. Created for compact hatchbacks, this tent adds the vehicle's interior space to its own for spacious, roomy living when out in the wilderness.

Just attach the vehicle sleeve, and you're good to go; it's that easy. A full rainfly provides ultimate weather protection, while the extra-large awning gives cover to your large, bulky or oversized items. Inside, the tent offers a gear loft, two gear pockets and a convenient built-in lantern holder. This tent is perfect for camping or when you're in full bug-out survival mode. Assembly takes fewer than 10 minutes. Carrying bag is included.

Specifications

- Accommodates all hatchback vehicles
- Sleeps up to four
- Full rainfly for ultimate weather protection
- Large, 6-foot awning shade
- Transforms into self-standing tent

MSRP

\$289.99

URL

www.NapierOutdoors.com



Deluxe Camping Combo

Overview

There is no need to shop for individual items when the Deluxe Camping Combo has already provided them for you. Included in this essential and affordable kit are all the components needed for a safe, dry and comfortable night's sleep out in the wild.

You get a three-person aluminum pole dome tent, a Sleepy Ridge lightweight, 10-degree sleeping bag, an ultra-compact sleeping pad and an 8x10-foot ground cover/tarp. All materials are built tough and will withstand harsh outdoor conditions with ease. With these outdoor sleeping essentials, you'll never suffer from a bad night's sleep again.

Specifications

- Lightweight, not bulky
- Complete sleeping kit
- Easy setup
- For recreational or emergency uses
- Durable, built to last

MSRP

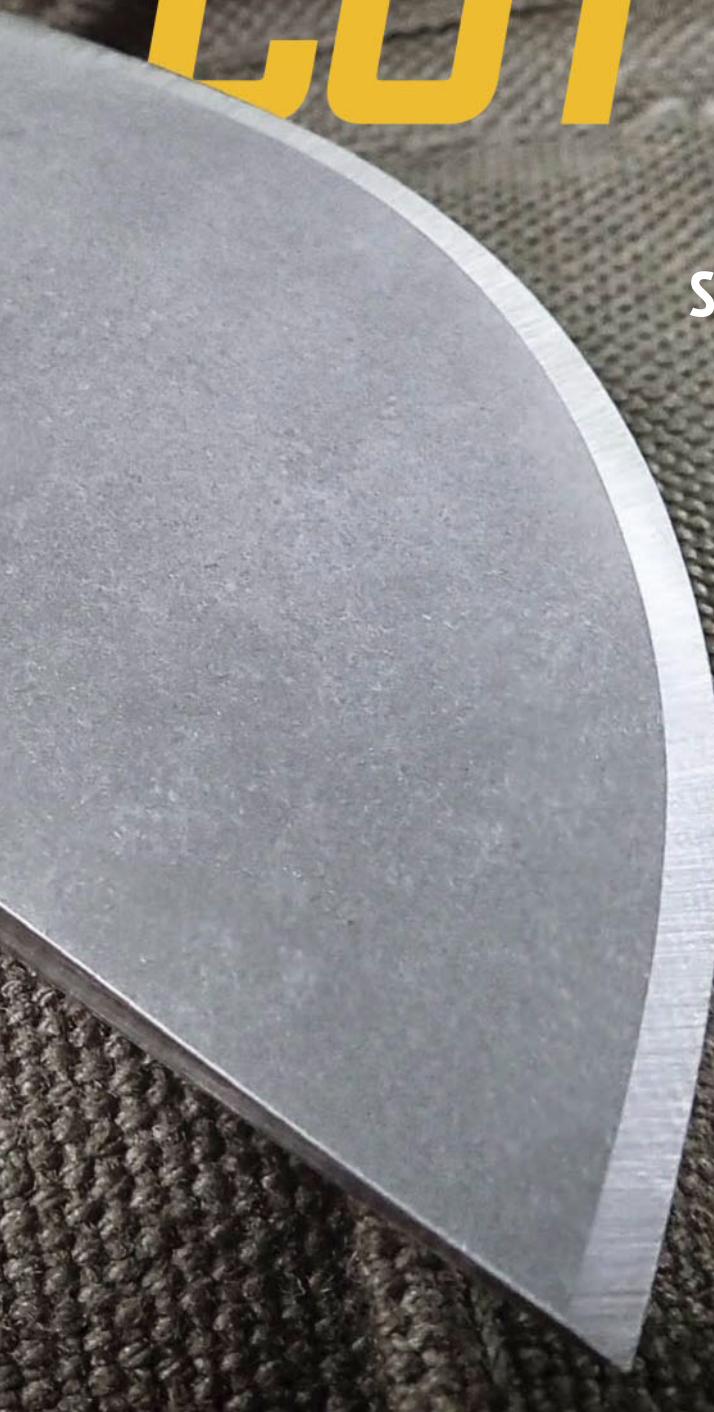
\$229.95

URL

www.BePrepared.com



BEASTLY CUTTERS



**TWO SWAMP MONSTERS FROM
SMITH & SONS KNIVES: THE OGRE
AND TATAILLE**

BY REUBEN BOLIEU

► The Ogre's 5½-inch blade smashes through stumps of fatwood for tinder and kindling with monstrous authority.

"THE OGRE AND THE TATAILLE COULD HAVE EASILY SWAPPED TASKS AND BEEN RIGHT AT HOME DOING SO, BUT THEY REALLY ARE TWO DIFFERENT BEASTS."



"M

aterials & craftsmanship—that's our gimmick." At least that's what it says on Smith & Sons' website. I am no stranger to this company, so I can testify that it has those two gimmicks down.

What started out as a small family business has evolved into a full-blown knife company. It doesn't end there: Smith & Sons also has a storefront shop Sulphur, Louisiana, at which people can handle the company's knives. In addition to that, the company also gives classes on sharpening and how to make a knife from a Nicholson file.

I caught up to the Smith clan at a convention to see what new knives it had for this year. As if the Louisiana Bayou didn't have enough folklore associated with it, here are two more beastly offerings from Smith & Sons Knives—the Ogre and the Tataille.

Ogre

Specifications

- Scales: Natural, black or OD green Micarta
- Steel: D2
- Overall length: 10½ inches
- Blade length: 5½ inches
- Blade stock: ¾ inch
- Grind: Flat
- Finish: Greywash with satin spine
- Sheath: Vertical/leather with ferro loop and leg strap
- Free sharpening for life

MSRP: \$360

◀ Top, far left: The author made a tiki torch with a saw and the Ogre. After the saw cuts were made, the Ogre was used to club the notches out of the wood to make an air vent for the torch.

◀ Bottom, far left: After a brute of a workout smashing through wood and splitting it, the Ogre could still shave thin, curly fuzz sticks with ease. The author felt the Ogre had a thin grind for such a stout, 3/16-inch blade.

➤ *Top, far right:* There is very aggressive jimping on the back of the spine (about 1½ inches) for those who like to grip the knife with their thumb on the spine. However, it also acts as another place to strike a ferrocium rod, in addition to the 90-degree spine.

Tataille

Specifications

- Scales: Natural, black or OD green Micarta
- Steel: D2
- Overall length: 9½ inches
- Blade length: 5½ inches
- Blade thickness: ¾ inch
- Grind: Flat
- Jimping on spine
- Patina finish
- Multi-carry leather sheath

MSRP: \$360

➤ *Bottom, far right:* One of the first things the author likes to do when setting up a camp is make a maul to help build shelters, baton through wood, tenderize meat and hammer wooden stakes into the ground.

“THE TATAILLE MIGHT BE THE LITTLE BROTHER OF THE ROUGAROU, BUT THAT DOESN’T MEAN IT’S ANY LESS SCARY.”

APPETITE FOR DESTRUCTION

This is not the name of the album by 1980s rock band Guns N' Roses; rather, it is the attitude of the new Smith & Sons knife, the Ogre.

According to folklore, an ogre is a hideous, unusually strong and cranky giant who feeds on humans. However, *this* Ogre has an appetite for wreaking havoc on wood.

Stout in appearance and quite imposing, this knife has an overall length of 10½ inches and a monstrous, 5-inch handle. The steel on the Ogre is D2 and is ¾ inch thick at the spine of the flat-ground blade. The cutting edge is 4¾ inches with an overall blade length of



5½ inches. Three hollow brass pins in the handle hold the very comfortable green micarta scales in place.

The Ogre is quite beastly, so to keep it light and nimble in the hand, it has been skeletonized under the scales. The handle is about 7/8 inch thick at the widest point, which makes it very hand filling. People with large paws (and giants, alike) will be pleased. The blade has a new greywash finish with a 90-degree satin spine for scraping and striking a fire steel.

To round out the package, a ruggedly handsome leather sheath—with ferrocium loop—keeps this monster in line. Anyone who is a stranger to Smith & Sons Knives will appreciate the quality of its leather sheaths, which are absolutely stellar in every way.

SWAMPCRAFT

Another new offering from Smith & Sons is its fieldcraft knife, the Tataille. According to the company, this knife is said to be a first-ever “swampcraft” knife for Smith & Sons (which is a new one in my book). It’s the smaller brother of the Rougarou knife, named after yet another swamp monster that is werewolf-like: half



HOW THEY ARE MADE

Smith & Sons Knife Company uses the stock removal process to produce its knives. From a bar of D2 tool steel, the blade shape is cut out and ground to shape. Then, the heat-treat and tempering processes are done in a special oven.

After that, it's time to fit the handle scales on the knife and shape it on various grades of sanding belts. Then comes the final sharpening of the cutting edge.

Smith & Sons' patina process is unique: D2 tool steel doesn't rust or patina very easily, so to patina the blade, the company cold blues the steel and tumbles it to get that random pattern, making the finish unique on every blade.



man, half beast that preys on people venturing too far into its territory. Apparently, in Sulphur, Louisiana, parents tell their kids that if they misbehave, the Tataille will get them. The Tataille might be the little brother of the Rougarou, but that doesn't mean it's any less scary.

The blade has more of a traditional leaf shape, but with a slight swedge on the top 1 1/2 inches of the tip for better penetration and drilling. Its overall length is 9 5/8 inches, with a 5 5/8-inch blade (4 3/4-inch cutting edge). The handle is large (4 1/8 inches long) but not as hand filling as the Ogre, with three hollow brass pins holding the black Micarta scales in place. The 3/16-inch-thick D2 blade has a nice, forced patina finish and aggressive thumb jimping on the top of the spine.

The multi-carry sheath with ferrocium rod is the star of the show. It can be carried "as is" on a belt or adjusted with a flathead screwdriver to use as a dangler. As an added bonus, it can be worn horizontally (commonly referred to as "scout carry").

Smith & Sons has always offered great sheathwork, and it seems to only get better.

IN THE BUSH WITH THE TATAILLE

I had the chance to get out in the backwoods for some Southern-style camping during the early summer months in Georgia. Part of getting out in the woods and having fun is enjoying things with a friend. In this case, I was on a trip with Patrick Rollins (the lead instructor at Randall's Adventure & Training) for a few days of camping and

► Right: The free-standing tiki torch was made with a saw, wooden maul and the Ogre knife.



"... THIS OGRE HAS AN APPETITE FOR WREAKING HAVOC ON WOOD."



➤ Crossgrain notches were made in green wood with the Tataille and the maul. It was hammered, tip down, on the butt to knock out the wood between the saw cuts. This made the notches that held the boiling pots and kettle in place over the fire.

crafting in the woods.

When it comes to the outdoors, Patrick is one of the best I've seen. We both like to build things; sometimes, that means using tools to help make other tools.

Making a simple maul out of wood really makes camp life a lot easier. We made a couple with the help of a large bow saw, making a cut around the circumference of a stout log, about 14 inches long, about one-third of the way up from the bottom. The Tataille knife was used to split the sides out (with a club) until the knife got to the stop cut made by the saw. Then, it was just a matter of carving the handle to comfort.

The medium-sized blade was just what the doctor ordered for getting through forearm-thick pieces of wood. We made two mauls to help drive wooden stakes in the ground for our overhead shelters and for clubbing the knife through wood to make notches for other projects in the works.

To suspend our cook pots over the fire, we built a simple suspension system that works for very hard or frozen ground when driving wood into it is not an option. Using a thick, green sweetgum branch, we took a maul to the spine of the Tataille and hammered it a little to make deep notches a couple of inches apart. We then put the tip of the knife between the cuts and used the maul to lightly hammer the back of the knife on the butt. This dislodged a perfectly uniform piece of wood out of the space and made a large, clean notch.

After repeating the process a few inches down, there were two notches that were then ready for the legs. Using a broom-stick-thick piece of green wood, I used the Tataille to hammer into it at a 45-degree angle and stopped when the blade got to the middle. I repeated this on the opposite side, which created a pronounced "V" in the top of the wood. I did this on two 16-inch-long green branches that served as the legs for the support bar. That project was finished.

SPLITTING WOOD WITH THE OGRE

Naturally, when a woodsman holds a knife as stout as the Ogre and there is a small round of wood in close proximity, it's like fighting gravity. The natural magnetism between the knife and a chunk of wood is



➤ Above: This type of pot-hanging system is designed for very hard, rocky or frozen ground. The Tataille made the notches for holding the pots and for the legs to support the whole rig.

➤ Left: As ruthless as its namesake, the Tataille is at home in the dark, murky woods and the swamp, alike. The D2 tool steel is resistant to the elements and any abuse you can dish out.

just too much to fight. Besides, who can stop an Ogre?

With rainclouds looming, I split a fatwood chunk into small sticks to fuzz up for ready-to-grab tinder. Not only did the Ogre crush this task, it also showered sparks from a ferrocerium rod quite well.

For a change of pace, I made a tiki torch out of a piece of dry wood I cut down with a bow saw. I used the Ogre to split the small log into quarters, following that by splitting the inside section of each piece. This would form a hollow chamber in the log when it was put back together and bound with bankline. On the inside of two adjoining pieces, I made some cuts with a saw that were notched out with the help of a maul and the Ogre.

When the tiki torch was completed, it had an air vent to put tinder into and supply it with oxygen.

The torch needed tinder and small fuel. After all the brute work, I now needed to make thin wood shavings out of poplar and the fatwood I had split. The edge-holding capabilities of the D2 prevailed, and the beastly Ogre produced beautiful, thin fuzz sticks for the torch.

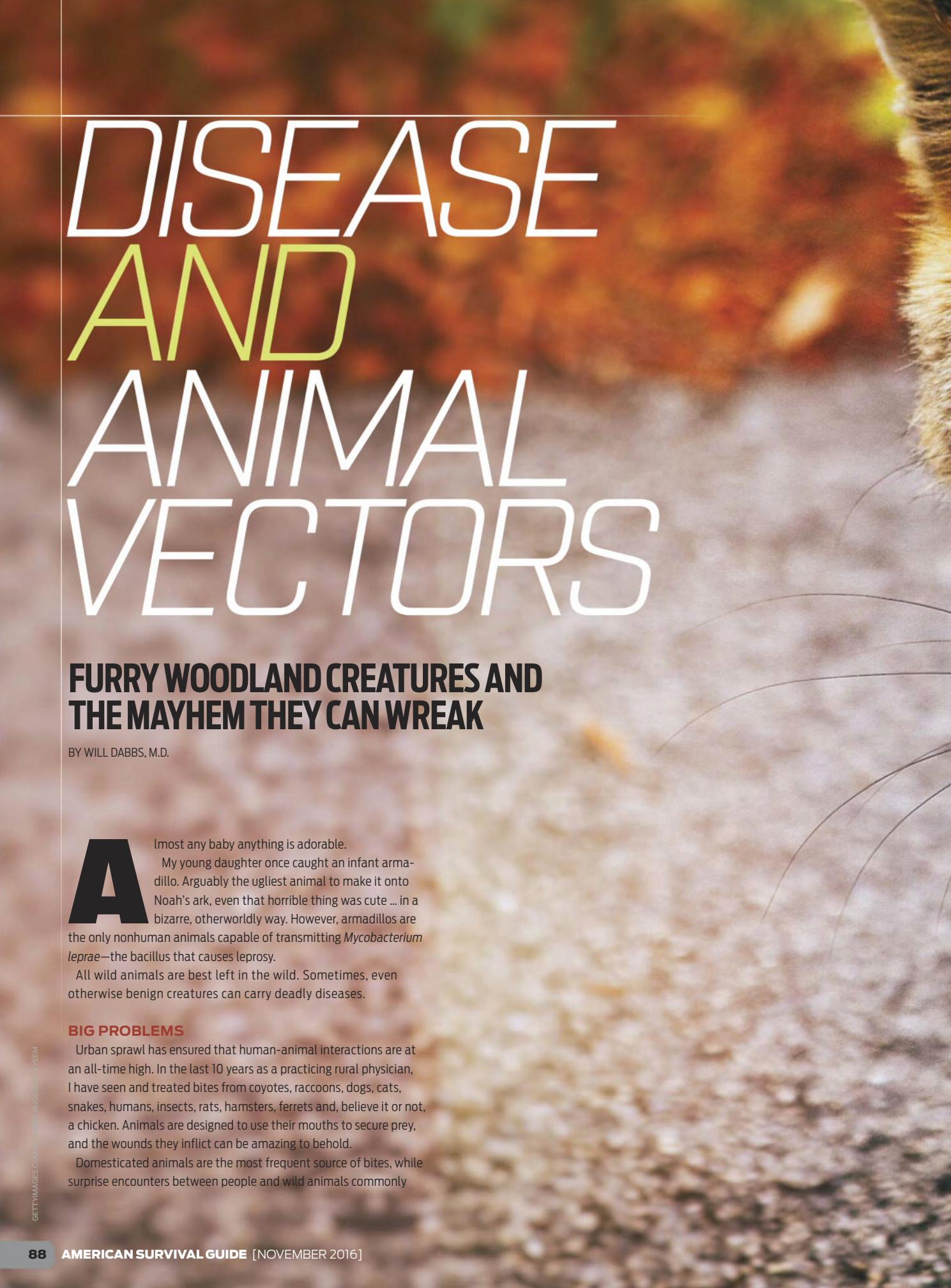
Red beans and rice are very much part of the Louisiana identity; these were on the menu for dinner one night. The Tataille was within arm's reach, so naturally, it was used to slice up the sausage and peppers that would be added to a raccoon stew with red beans and rice. It stewed for hours on the new suspension system built with the Tataille.

Considering the amazing packaging presentation, stellar-quality leather sheaths and unfailing blades of these two knives, Smith & Sons has delivered in a big way. The Ogre and the Tataille could have easily swapped tasks and been right at home doing so, but they really are two different beasts.

As a final task, and in an effort to keep the camp well lit, I used two aluminum cans left in the woods to make candle lanterns. I simply cut a large capital "H" out of each can with the Tataille and pulled back the flaps to create an opening to hold a candle. I'm sure cutting light metal probably wasn't what Smith & Sons made this knife for, but, hey ... it's swampcraft; and if this isn't swampcraft, I don't know what is. **ASG**

SOURCE

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DISEASE AND ANIMAL VECTORS

FURRY WOODLAND CREATURES AND THE MAYHEM THEY CAN WREAK

BY WILL DABBS, M.D.

Almost any baby anything is adorable. My young daughter once caught an infant armadillo. Arguably the ugliest animal to make it onto Noah's ark, even that horrible thing was cute ... in a bizarre, otherworldly way. However, armadillos are the only nonhuman animals capable of transmitting *Mycobacterium leprae*—the bacillus that causes leprosy.

All wild animals are best left in the wild. Sometimes, even otherwise benign creatures can carry deadly diseases.

BIG PROBLEMS

Urban sprawl has ensured that human-animal interactions are at an all-time high. In the last 10 years as a practicing rural physician, I have seen and treated bites from coyotes, raccoons, dogs, cats, snakes, humans, insects, rats, hamsters, ferrets and, believe it or not, a chicken. Animals are designed to use their mouths to secure prey, and the wounds they inflict can be amazing to behold.

Domesticated animals are the most frequent source of bites, while surprise encounters between people and wild animals commonly



**“ALL WILD
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account for injuries, as well. Animals can attack people while in search of food, out of curiosity, in self-defense or just because that's what wild animals do. And, particularly dangerous animals have been known to escape from zoos.

A disease that passes from animals to humans is called "zoonosis." There are at least 39 significant major diseases people catch directly from animals. In addition, there are at least 48 major diseases people get from the bite of insects that have bitten an infected animal. There are another 42 categorized diseases that people get by ingesting or handling food or water contaminated with animal feces.

The term, "vector," as it applies to human disease, refers to host creatures that transport and transmit disease-causing pathogens from one creature to another.

VECTORS

The "Black Death" was the colloquial term used to reference **bubonic plague**, a particularly nasty disease caused by the *Yersinia pestis* bacterium. Between 1346 and 1353, this pestilence killed between 75 and 200 million people. This equated to between 30 and 60 percent of the entire population of Europe. The Black Death was one of the most devastating pandemics in all of human history.

The disease-causing bacteria were carried from central Asia by Oriental rat fleas traveling on the black rats that were ubiquitous passengers on the merchant ships of the day. And while the players are different today, the dangers remain the same.

Rabies is a viral disease that causes acute inflammation of the brain in warm-blooded animals—including humans. Worldwide, rabies kills between 26,000 and 55,000



GETTY IMAGES.COM/BY: JIARAYSHNIU

➤ **Above and right:**
Many disease vectors are familiar wild animals that are commonly found near residential and recreational areas.



GETTY IMAGES.COM/BY: JOHN D. WILDER

people every year, and the actual number of patients to survive an active infection in all of human history can be counted on one hand.

While dogs are the most common rabies vectors in most of the world, widespread use of rabies vaccinations among domesticated American pets keeps the prevalence in the American canine low. Most American rabies exposures stem from bats. Raccoons, skunks and opossums are next on the list. Rabies is seldom found in rodents.

Rabies is caused by a family of lyssaviruses that is passed in saliva from the bite of an infected animal. The time period between exposure to the disease and initial symptoms is between one and three months, although some cases have been as short as a week and others as long as a year.

The rabies vaccine and, to a lesser extent, rabies immunoglobulins, are effective at thwarting the disease—but it is critical to contact a physician quickly after potential exposure to a rabid animal. Given the abysmal survival rate of this disease, and that bats actually carry rabies fairly frequently, we typically treat anybody who has had even the most cursory exposure to bats. The Centers for Disease Control recommends that even people who awaken to find a bat in the room with no evidence of a bite seek medical advice about rabies shots.

Symptoms of active rabies include violent agitation, unbridled excitement, confusion,

➤ Right: In 2012, more than 27,000 people underwent reconstructive surgery as a result of dog bites.

partial paralysis and fear of water. (Rabies symptoms likely formed the basis for many of the world's zombie legends.) The treatment for rabies is post-exposure prophylaxis with the rabies vaccine. So, check with your doctor anytime you have an animal bite.

Lyme disease is caused by deer ticks and causes fatigue, flu-like symptoms, joint pain and, in some cases, a characteristic bull's-eye rash. Long-term effects in a small percentage of sufferers can become quite severe.

Ticks found to be attached should be removed with gentle traction. Digging around in the skin for retained tick parts or (heaven forbid) trying to burn the tick into releasing its grasp invariably makes the problem worse. Treatment is with appropriate antibiotics; your doctor can give you the details.

Yes, rabies is horrible, but there are never more than one or two active cases in the United States every year. However, there are about 20,000 cases of cat-scratch disease caused by *Bartonella henselae*.

Toxoplasmosis is a disease contracted through exposure to cat feces that is caused by *Toxoplasma gondii*, one of the world's most common parasites. Symptoms are typically nothing to write home about in healthy patients, but the disease can be fatal to those with weakened immune systems. Toxoplasmosis can also cause persistent problems for children when contracted by pregnant women.

ANIMAL BITES AND SKIN INFECTIONS

All mouths everywhere are filthy—humans principal among them—and your skin is the largest organ in your body. Its most critical function is separating you from the ubiquitous stuff in the environment designed to kill you. Whenever there is a break in the skin, it can potentially allow entry of dangerous pathogens.

In the case of animal bites, even if the damage is not acutely severe, subsequent infections can become life threatening.

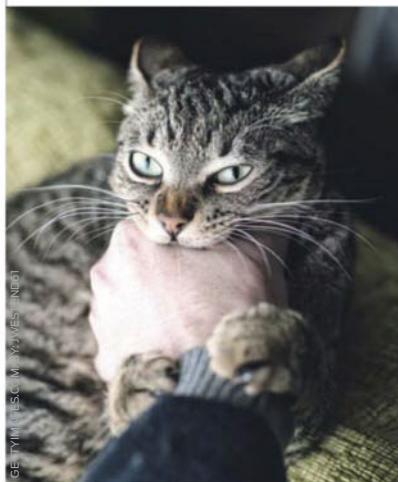
Statistically, dog attacks result in more doctor visits than attacks by cats, but cat bites are frequently nastier. In some cases, it is safer to leave certain animal bite wounds open rather than closing them immediately if the danger



"DOMESTICATED ANIMALS ARE THE MOST FREQUENT SOURCE OF BITES..."

of infection is exceptionally high. Your doctor will know the best way to manage your particular circumstances.

Domesticated cat bites typically transmit *Pasteurella multocida*, a particularly malevolent bacterium that can cause simply wretched infections. Cat bites are especially dangerous, because the design of their teeth produces deep, slender puncture wounds that are difficult to clean. If left untreated, subsequent infections can affect tendons, muscles and bones.



➤ Fresh bleeding wound from a cat bite



➤ Below, left: Mosquitos are a malaria vector responsible for the deaths of millions of humans.
➤ Below, right: Ticks can transmit a number of serious illnesses to humans.



► Right: According to the Centers for Disease Control, almost 20 percent of all annual dog bites, or about 880,000, are serious enough to require medical treatment.



GETTY IMAGES/COM/BY: JRUGULY

► Below, far right: Pathologists from the Institute for Food, Pharmaceuticals and Animal Epidemics in Berlin, Germany, examine a cat and a bird for possible bird flu viruses.

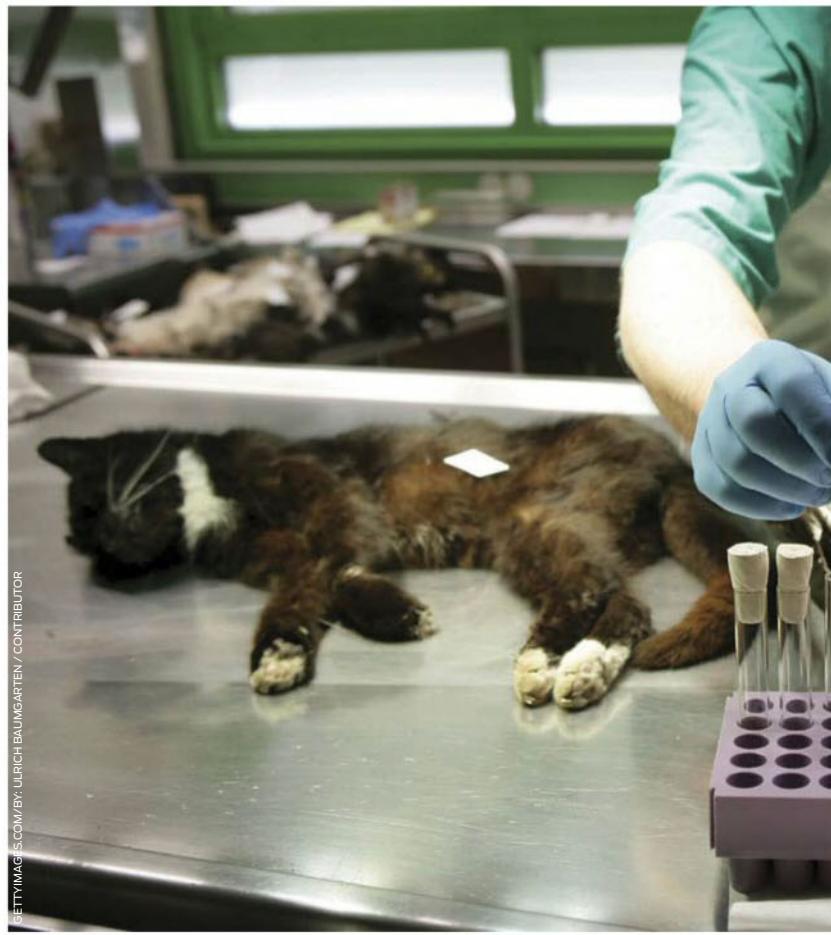


GETTY IMAGES/COM/BY: NOAH SEELAM / STRINGER

► Above: A veterinary clinic employee gives a rabies vaccination to a pet cat at a free vaccination camp at the Government Super Speciality Veterinary Hospital in Hyderabad, India.

Clostridium tetani are the rod-shaped anaerobic bacteria that cause **tetanus** infections. This is also on the list of things you don't want. However, almost everybody tolerates a tetanus vaccination, and the shot renders effective protection for a decade. *Clostridium tetani* is a ubiquitous organism in dirt, so you should consider a tetanus vaccination anytime there is a potentially contaminated break in the skin. (FYI: The particular affinity of tetanus for rusty nails is an old wives' tale.)

Reptile bites are also frequently corrupt, whether the offending creature is venomous or not. The Komodo dragon, for instance, is not technically poisonous, but



GETTY IMAGES/COM/BY: ULRICH BAUMGARTEN / CONTRIBUTOR



PROTECTING YOUR PETS

Vaccines help the body prepare to defend against attacks by virulent microbes. By injecting antigens into a dog or cat, the animal's immune system can be primed so that it is no longer susceptible to certain diseases. Antigens mimic the microbiological signature of specific diseases without the destructive effects and allow the immune system to spool up to prepare to fight off the real germs, should they ever be exposed.

Laws that vary from state to state mandate certain pet vaccines. Other vaccines are simply recommended by the veterinary boards that ponder such stuff. Many vaccines have specific dosages and schedules that are determined by the size and type of animal involved.

In the case of rabies vaccinations, some states mandate annual vaccinations; others demand vaccination every three years. Considering that this disease is almost always fatal and that the most common vector outside the United States is the canine, the eradication of rabies in domesticated dogs and cats in America stands as a profound testament to the effectiveness of these laws.

Dog vaccinations are currently divided into "core" and "noncore" categories. Core vaccines include distemper, adenovirus, parvovirus and rabies and should be given to every dog. Noncore vaccines include those against leptospirosis and coronavirus, as well as vaccines against kennel cough and Lyme disease.

Whether or not to vaccinate against noncore diseases is a function of the age, breed and health status of the dog, as well as the prevalence of certain diseases in certain geographic areas. Your vet can help you sort out the details.



its saliva is so ripe with virulent pathogens that its bites are invariably horrible. As a result, antibiotic prophylaxis is always a consideration with reptile bites. This also applies to venomous snakebites.

MUSINGS

While the possibility of being attacked by a Komodo dragon is not the sort of thing that should keep you up at night, getting nipped by your great aunt's wretched, little, yappy dog is a different thing entirely. Animal bites, regardless of the source, can be dangerous if left to their own devices. Whether in times of peace or chaos, all animal bites should be aggressively cleaned, and medical care sought if they are deep, severe or from a questionable source.

The best way to treat diseases such as rabies and leprosy is to avoid getting diseases ... such as rabies and leprosy. As with most things, a little knowledge and preparation can go a long way toward keeping you and your family safe from furry, little creatures and the germs they carry.

Assess your environment, ponder potential problems before they arise, and plan accordingly. Stockpiling some basic wound-management materials, combined with a chat with your family physician concerning antibiotics and vaccinations, will typically do the trick. **ASG**

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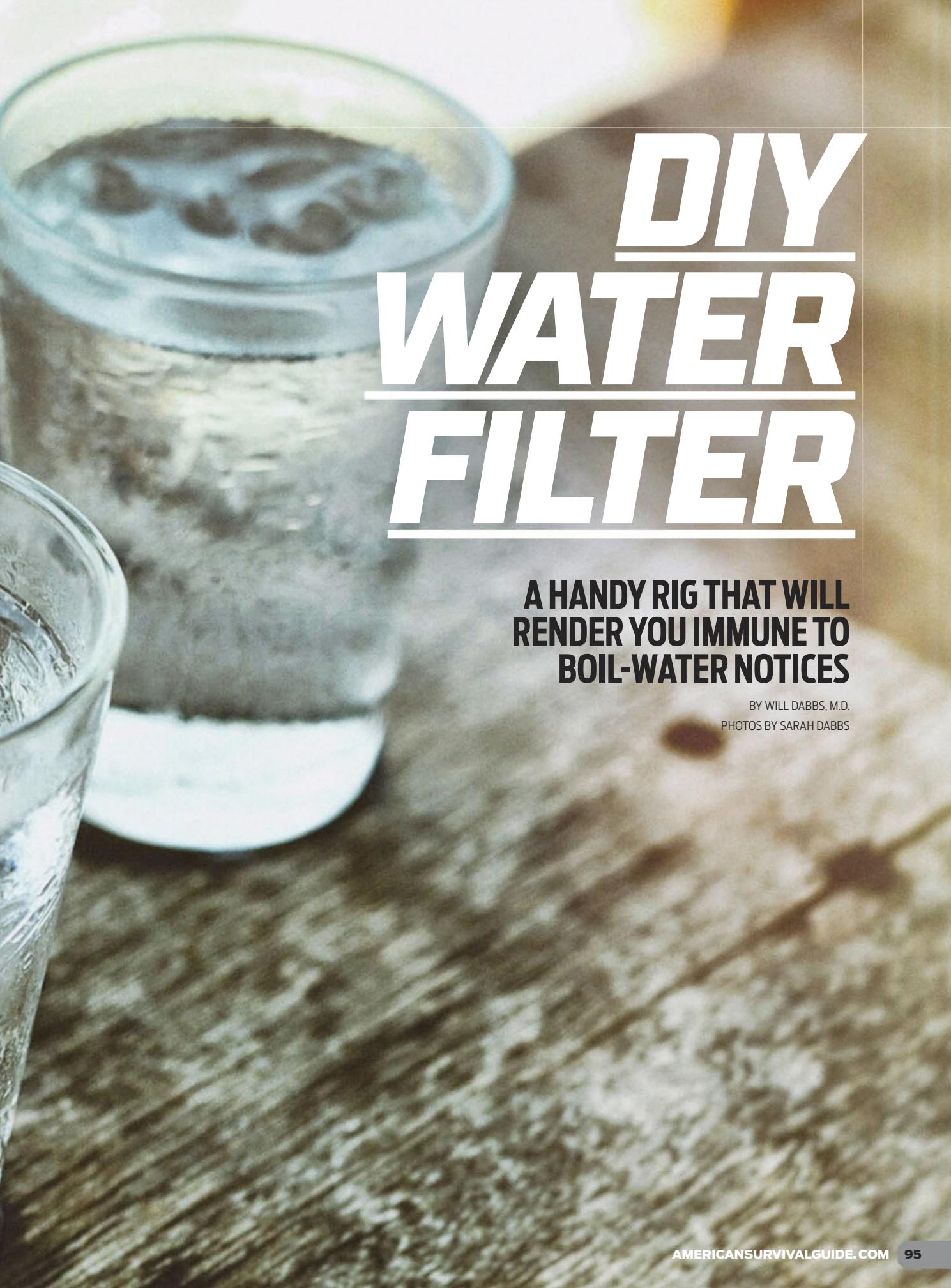
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DIY WATER FILTER

A HANDY RIG THAT WILL
RENDER YOU IMMUNE TO
BOIL-WATER NOTICES

BY WILL DABBS, M.D.

PHOTOS BY SARAH DABBS

Our rural home is equipped with a brace of splendid, on-demand hot water heaters. As long as our ample propane tank remains supplied and the water keeps flowing, I could theoretically shower indefinitely. I get the warm fuzzies just thinking about it.

On the fateful day in question, I was busy scrubbing my chiseled, pink carcass while simultaneously dreaming up my next literary tour de force to unleash upon an unsuspecting American gun culture.

The initial manifestation was a tiny drop in the enthusiasm with which my typically vigorous showerhead removed my suds. Before I could register the problem on a

► Right: This DIY water filter kit is simple, cheap and easy to use. It is fairly unsightly sitting on the kitchen counter, but this inexpensive rig renders your family immune to boil-water notices.

► Below: The first official notice we had of a problem was the appearance of a boil-water notice on our front doorknob.



► The "all clear" notice arrives the same way: via a bright hangtag that shows up on the front doorknob. In the case of this little crisis, the water had to undergo some kind of ancillary treatment for about two weeks to render it safe for ingestion.



"IN THE CASE OF AMERICAN WATER PURIFICATION AND DELIVERY SYSTEMS, THE PROCESS INVOLVES CLARIFICATION, FILTRATION AND DISINFECTION."

conscious level, the hot water heater kicked off, and the water temperature plunged to about 33 degrees F.

My long-suffering bride later informed me that my subsequent beached carp imitation, combined with my insensate screaming like a female toddler, was somewhat less than dignified. I removed the remaining soap residue as best I could in the ice-cold deluge and grumbled my way to work, warming myself vigorously with massive doses of self-pity.

It was upon my return that evening that I found the boil-water notice dangling from my front doorknob.

WHERE DOES OUR WATER COME FROM, ANYWAY?

More lives are saved every year by the worldwide availability of clean, potable water than by all medical efforts combined. The reliable availability of clean water is second



only to our moment-to-moment demand for oxygen. In the case of American water purification and delivery systems, the process involves clarification, filtration and disinfection.

The particulars are beyond the scope of this article, but suffice it to say that the entire system is dependent upon constant positive pressure in the delivery system. Should the delivery system pressure drop, contaminated groundwater—or even sewage—can back up, requiring a complicated and time-consuming purging process to rectify. Such was the event that had wrecked my otherwise productive morning ablutions.

YOU CAN'T DRINK THE WATER, SO NOW WHAT?

Boiling all your water looks great on paper, but that doesn't work so well out here in the real world. Lawyers mandate the warnings to protect their communities from the predations of yet more lawyers should anyone get sick, but purification via boiling for every scrap of water you ingest is simply not practical in a busy, modern lifestyle. Keep in mind that you can get sick nigh unto death with contaminants ingested via simply brushing your teeth or eating fruit or vegetables washed in unsafe water.

There's got to be a better way. Bottled water is always an option, but in some places, bottled water costs more than soft drinks (I never could quite divine the logic in that). Regardless, bottled water is invariably expensive, heavy and bulky. Additionally, every other person affected by the notice is going to be hunting the stuff, as well. As a result, it

► *Above:* The heart of the system is a round ceramic filter unit that fits into the bottom of the top bucket. There is a cloth sheath that fits over this component to exclude gross contaminants. The slightly yellow/brown hue is the residue of two weeks' worth of daily use with unsafe water through the tap.

► *Below, left:* The water that goes through our inexpensive family water filter is sparkling-clear, safe and tasty.

"A DIY WATER FILTER IS CHEAP, EASY TO BUILD—AND EFFECTIVE."

can become fairly scarce in short order.

Steam distillation systems are literally perfect, but they require a reliable source of heat and can be slow and mightily expensive. An institutional silver water filter works like a champ and looks like a big, silver coffee urn sitting on the kitchen counter. However, a good one will set you back as much as a new Glock handgun.

I serendipitously tripped over the coolest DIY water filter that can be constructed from common components for about what it will cost to take your family out to dinner at McDonalds. Such a rig will also render you immune to boil-water notices.

THE PARTICULARS

The guts of this system can be found on amazon.com for less than \$30. The kit includes a ceramic filter, along with associated fittings and a spigot device. You'll also



► *Above:* The residue remaining in the top bucket after two weeks' use looked like chunky iced tea. Blech!

► We found a fairly imposing crack in the base of our top bucket when we pulled it down from the attic. A little silicone caulk in the survival stash takes care of that in short order.



"WHEN I DRAGGED MINE DOWN FROM THE ATTIC AND FILLED IT, I FOUND THAT A CRACK HAD DEVELOPED IN THE BASE OF ONE OF THE BUCKETS THAT PROMPTLY THREATENED TO INUNDATE OUR KITCHEN."



◀ Above: A word to the wise: Keep a tube of silicone caulk in your survival stash.

need a pair of plastic utility pails from your local home supply store. Alternatively, 5-gallon pickle buckets are dirt-cheap and enjoy myriad uses.

Thoroughly wash out your two buckets with diluted Clorox solution when you get them home to remove any of the chemical factory taste, and you are ready to go.

The instructions are stupid-proof. You need a hand drill, the appropriate bits and maybe 15 minutes to put the whole rig together. When I dragged mine down from the attic and filled it, I found that a crack had developed in the base of one of the buckets that promptly threatened to

inundate our kitchen. A word to the wise: Keep a tube of silicone caulk in your survival stash, and this becomes an easy fix.

HOW DOES IT WORK?

The filter unit fits into the bottom of the top bucket and then runs through the lid of the bottom pail. The spigot goes in the bottom of the collection bucket. Everything screws together finger-tight and seals with rubber washers. Simply fill the top bucket with questionable water, wait a bit for gravity to draw the water through the filter, and draw your crystal-clean drinking water out through the bottom spigot.

We used ours for more than two weeks straight, supporting our entire family's water needs. (The resulting mystery gunk that was filtered from the water and that I had to clean out of the top bucket after our two-week ordeal looked like thick, chunky iced tea.)

A DIY water filter is cheap, easy to build—and effective. Lots of our survival stuff is laid in for that inevitable day the zombies come. Some of it, however, can come in really handy for those lesser, shower-related crises, as well. **ASG**



◀ A polymer spigot in the base of the bottom bucket allows clean, pure drinking water to be drawn out as needed.



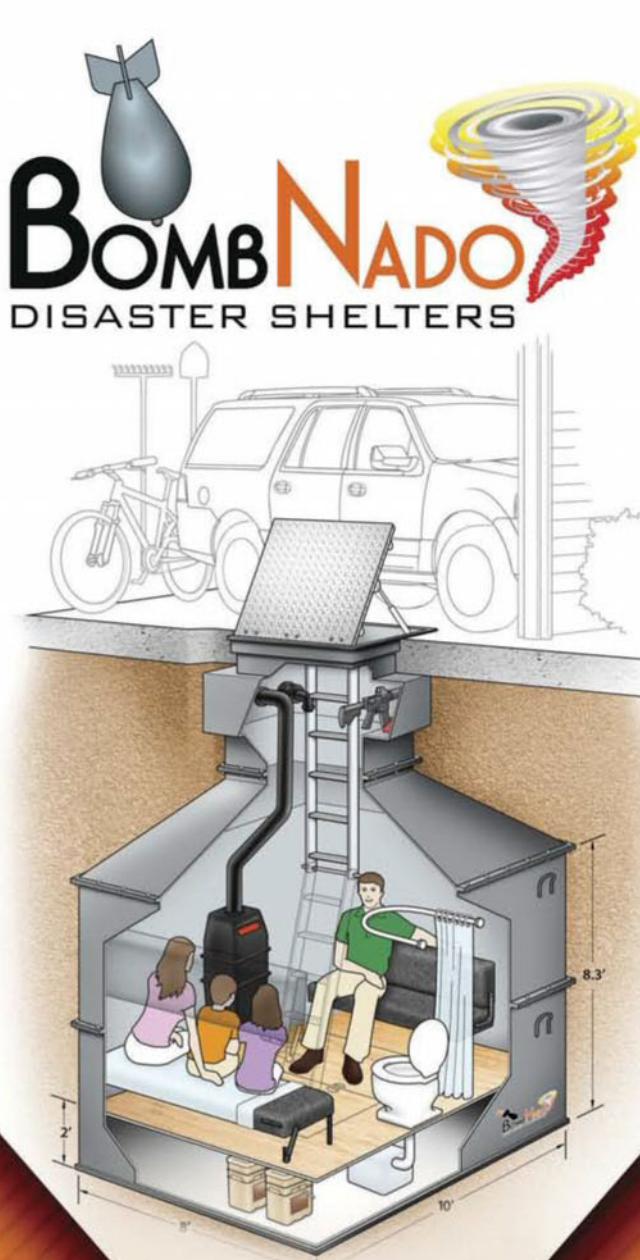
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AUGMENTED SURVIVAL

THE STEYR AUG A3 M1—THE ULTIMATE BUG-OUT BULLPUP

BY WILL DABBS, M.D.

PHOTOS BY SARAH DABBS



Looking at common things in uncommon ways has produced some of mankind's most earth-shaking breakthroughs: Bicycle components became the world's first airplane; a military radar set birthed the microwave oven; and the handheld transistor radio eventually evolved into the cell phone.

A comparable epiphany drove modern small arms design. The Thornycroft bullpup bolt-action rifle was patented in 1901. In this groundbreaking gun, the action of the weapon was moved back into the buttstock to minimize the weapon's geometric footprint. Developed by an English gunsmith and producing a bolt-action rifle that was 7 inches shorter and 10 percent lighter than the Lee-Enfield service rifle of the day, the Thornycroft carbine nonetheless remained ungainly and exhibited fairly brutal recoil.

In 1957, the term, "bullpup," was first used to describe a target pistol with a custom stock. Nowadays, the bullpup moniker describes any weapon in which the action is oriented behind the trigger group. The first successful practical application of the concept came in a truly revolutionary combat rifle born in 1977.

DAWN OF THE SPACE AGE

Despite a deplorable lack of fashion sense, the decade of the 1970s was a legitimately revolutionary age. 1969 had seen the first man walk on the moon, and by the mid-1970s, such stuff seemed almost commonplace. Spinoff technologies went on to give us such staples as personal computers, polyester, Kevlar and Velcro.

At the same time, engineers at Steyr in Austria began applying cutting-edge polymer science to the art of gun building. When combined with a novel bullpup layout and the newest hot rod 5.56mm cartridge, the resulting STG-77 assault rifle turned the gun world on its ear.

For bug-out applications, your defensive rifle should be compact, maneuverable, powerful and unflinchingly reliable. (It also won't hurt if it looks scary enough to make bipedal predators look elsewhere for easier pickings.) When all those parameters are taken into account, there remains but a single ideal smoke pole.

AUG stands for Armee-Universal-Gewehr—or, literally translated, Army Universal Gun—and the weapon is used operationally by at least 12 countries. The AUG melded state-of-the-art polymer science and

superb ergonomics into a platform that also included such revolutionary features as an integral optical sight. The resulting rifle, while incrementally heavier than the U.S.'s M4, nonetheless places its weight centrally above the firing grip and makes for a remarkably agile close-combat tool.

VITAL STATISTICS

The basic AUG is rugged and surprisingly simple. The forward handgrip folds as needed, and the barrel is removable and replaceable without tools. The safety is a push-through button. Right is "safe"; left is "fire." The newest versions of the AUG include a last-round bolt hold-open in the same location as that of the M4. The forward sling swivel is mounted along the centerline, and the rear swivel is reversible. The standard gun ejects out the right, but swapping to left-handed ejection requires nothing more than exchanging bolts and moving the plastic ejection port cover from one side to the other.

The charging handle is mounted on the left and is best actuated with the left hand

from the bottom to avoid rapping your knuckles on the optics. This appendage locks to the rear, should the guts of the rifle require inspection. There is a length of standard Picatinny rail mounted to the right aspect of the receiver for lights or lasers.

Barrels are cold-hammer forged and chrome lined for durability. Modern AUG rifles come with a 16-inch tube, although 13.8-, 20- and 24-inch versions are in service, as well. The rotating bolt sports seven locking lugs, and the bolt carrier rides on a pair of sturdy guide rods.

The Achilles heel of most bullpup designs is the trigger, because this component has to transmit the movement of the operator's finger a fairly long distance to trip the hammer. In the case of the AUG, the 9-pound trigger is smooth and altogether adequate for defensive use. The fire control system is entirely polymer, except for the springs and pins, yet those I have studied showed no appreciable wear after literally years of hard use.

The operating system is an adaptation of the Stoner gas-driven, short-stroke action pioneered in the AR180 rifle.

"... THE AUG OFFERS AN EXTRA 1.5 INCHES OF BARREL LENGTH WITH THE COMMENSURATE IMPROVEMENT IN VELOCITY AND TERMINAL EFFECTIVENESS IN A MARKEDLY SHORTER PLATFORM."





◀ The Steyr AUG A3 M1 is the latest iteration of the revolutionary Austrian combat rifle. Sporting polymer furniture and magazines, along with an aluminum receiver and a fully mature bullpup design, today's AUG is one of the world's most effective tactical weapons.



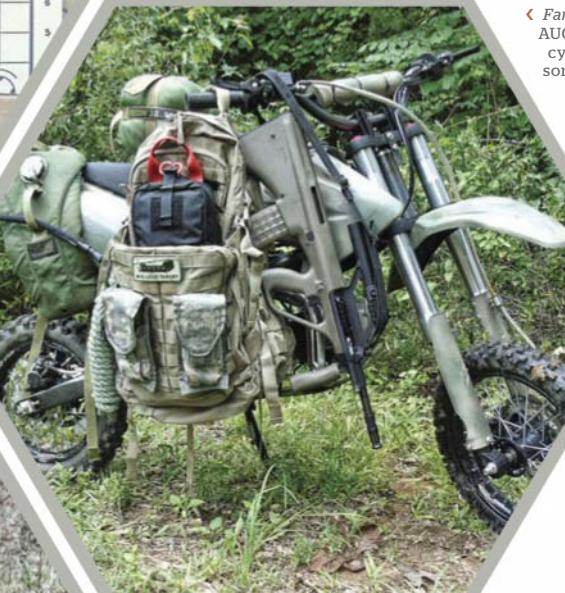
◀ Below: A length of standard Picatinny rail on the right side of the receiver accommodates all manner of tactical "bling."



◀ Far left: With the basic 1.5X optic, the Steyr AUG A3 M1 offers excellent combat accuracy. Swapping out the close-range optic for something with more magnification maximizes the rifle's accuracy potential.



◀ Left: Even with a barrel that is 1.5 inches longer, the Steyr AUG remains markedly shorter and subsequently more maneuverable than a MIL-SPEC M4.



◀ Far left: The AUG's combination of small size and advanced ergonomics makes it an ideal contender.

carrying handle. Optical sights also sport lengths of rail on three sides for ancillary tactical "bling." Additionally, there is a rudimentary set of backup iron sights incorporated into the upper rail on the optic.

By combining different barrels with different optics, the basic AUG chassis can serve as a close-range entry weapon, a mid-range general-purpose combat rifle or a long-range designated marksman's arm that is effective out to the limits of the cartridge.

"EVEN TODAY, WHEN ALUMINUM RECEIVERS ARE COMMONPLACE AND POLYMER FURNITURE PASSÉ, THE STEYR AUG A3 M1 STILL RETAINS ITS POSITION AS THE MODERN APEX PREDATOR."

AUG A3 M1

- ▶ **OPERATION:** Adjustable, short-stroke, gas-piston, semiautomatic
- ▶ **MAGAZINE TYPE/CAPACITY:** Polymer double-stack detachable box/30 rounds
- ▶ **RECEIVER MATERIAL:** Hard Elokal-coated aircraft aluminum
- ▶ **CALIBER:** 5.56x45mm (.223 Rem.)
- ▶ **BARREL:** 16-inch, chrome-lined heavy barrel (18.375 inches with muzzle brake)
- ▶ **RIFLING:** Six grooves; 1:9 RH twist
- ▶ **SIGHTS:** Short, 11-slot rail; high, 16-slot rail; 1.5X optic or 3X optic
- ▶ **SAFETY:** Two-position, trigger-blocking
- ▶ **trigger TYPE:** Single-stage
- ▶ **PULL WEIGHT:** 9 pounds, 8 ounces
- ▶ **STOCK MATERIAL/TYPE:** Synthetic/bullpup
- ▶ **LENGTH OF PULL:** 15 inches
- ▶ **DROP AT COMB:** 0.435 inch (short rail); 0.820 inch (high rail); 1.945 inches (optic)
- ▶ **DROP AT HEEL:** None
- ▶ **RECOIL PAD:** Elastomer; 0.3-inch thick
- ▶ **SLING SWIVELS:** Two (front QD, rear reversible)
- ▶ **WEIGHT, EMPTY:** 8 pounds
- ▶ **OVERALL LENGTH:** 28.15 inches
- ▶ **MSRPs:** \$2,099 (either rail); \$2,499 (1.5X optic); \$2,599 (3X optic)

SPECIFICATIONS

Unlike the AR180, however, the action of the AUG employs the most modern materials and design features available to produce a rifle that sets a world standard for reliability under harsh use. The gas system is readily adjustable without tools and disassembles easily for cleaning. The piston-driven design also keeps the majority of carbon fouling out of the action.

Magazines are polymer, translucent and all but indestructible. They are available in 10-, 30- and 42-round capacities, and the 30-rounders fit just fine in unmodified M4 magazine pouches. AUG mags disassemble with a bullet tip for cleaning and maintenance and are every bit the equal of their M4 counterparts in both reliability and ruggedness. Additionally, their translucent nature allows the operator to see the rounds remaining at a glance.

THE STATE OF THE ART

The newest version of the AUG is built in Steyr's new manufacturing facility in Bessemer, Alabama, and is designated the AUG A3 M1. This rifle is available with a short, 11-slot rail, a high, 16-slot rail, or a 1.5X or 3X optic built integrally into the

Swapping barrels is easier to do than to describe, and exchanging optics rails requires nothing more than an Allen wrench. This newest AUG infuses the classic design with enough accessory real estate to accommodate the pickiest operator.

HOW DOES SHE RUN?

At 7.7 pounds without optics, the AUG is, indeed, about a pound heavier than a comparable stripped M4. However, the bullpup design makes the gun fully 1.5 inches shorter than a MIL-SPEC M4 with a 14.5-inch barrel, even with the stock collapsed. What this means practically is that the AUG offers an extra 1.5 inches of barrel length with the commensurate improvement in velocity and terminal effectiveness in a markedly shorter platform. When maneuvering indoors or within a vehicle, that shorter overall length equates to faster handling and easier management in tight spaces.

Recoil is a non-event. My AUG sports the 1.5X optic that is remarkably effective for close-range engagements. With both eyes open, the field of view remains uncluttered, and the donut of death-cum-crosshairs aiming circle is fast and effective. Because there is no imaginable circumstance in which a civilian shooter will ever take a real shot at more than 100 meters, the performance of the AUG A3 M1 is optimized for real-world American defensive engagements.

There are those who might grouse that magazine changes are slower than is the case with an M4, but I respectfully disagree. What trivial loss you might have in speed is more than offset by the more-compact platform. The bolt locks to the rear on the last round fired, and the thumb of the weak hand finds the magazine release intuitively, even in a rush.

I genuinely love my AUG and have never had a stoppage with the rifle. I bump the gas system up a notch to run cheap steel-cased blasting ammo, but that is what you have an adjustable gas system for in the first place. When the zombies come—and you know they will—I'll reach for my AUG before anything else in my personal armory.

MUSINGS

Despite being 39 years old, the Steyr AUG A3 M1 remains competitive with the most advanced combat rifle designs

“... THE ACTION OF THE AUG EMPLOYS THE MOST MODERN MATERIALS AND DESIGN FEATURES AVAILABLE TO PRODUCE A RIFLE THAT SETS A WORLD STANDARD FOR RELIABILITY UNDER HARSH USE.”

rolling off the lines today. In reality, it has simply taken this long for everybody else to start to catch up.

Optimal survival guns are a subset of modern combat rifles, and the AUG's combination of small size and advanced ergonomics makes it an ideal contender. Even today, when aluminum receivers are commonplace and polymer furniture passé, the Steyr AUG A3 M1 still retains its position as the modern apex predator. **ASG**

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FORGE YOUR OWN AXE

A STEP-BY-STEP PRIMER

BY SARA DAWDY



**“SPECIAL
FORCES VETERAN
MAGNUS
JOHNSON USES
METAL ART AS A
WAY OF HEALING
AND TO RAISE
AWARENESS FOR
HIS NONPROFIT
...AS WELL AS
ITS PROJECT,
MISSION 22.”**



Every axe begins with choosing a railroad spike. Magnus Johnson looks them over to see if there are any breaks or stress cracks in the spike that would interfere with the welding process. Once he has found one that is as flaw free as possible, he is ready to begin.

Blacksmithing is believed to have begun in 1,500 B.C., during what is now known as the Iron Age. In the early 2000s, blacksmithing in the United States started to gain popularity again, and forges popped up all over the country. Up to that point, it was mainly farriers that kept the tradition alive. With this resurgence came a push for smaller



◀ The forge is heated to around 1,400 degrees (F), and the railroad spike is placed inside. It is left there until it gets red-hot. That softens the metal, making it easier to shape into an axe blade.



◀ Flames lick up the side of the forge as the spike is heated.



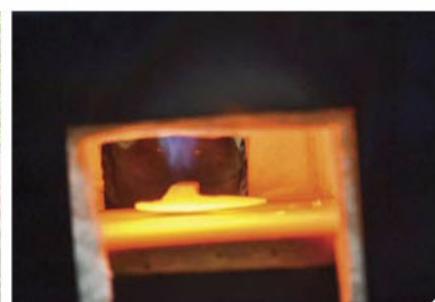
◀ Johnson carefully removes the spike from the forge with tongs. Nevertheless, the spike is so hot that it can heat the tongs quickly, so gloves are always worn to protect the hands from being burned.



◀ The blade starts to take shape as Johnson hammers down the head of the nail. He works the metal, hammering out the ends to create what will be the axe blade.



◀ Johnson (standing at the far side of the forge) checks inside the forge to see if the spike is hot enough to remove.



◀ The process must be repeated many times to get the axe blade flat enough to move forward with the next step.



"VETERANS COME TO THE SHOP DURING THEIR TREATMENT AND LEARN HOW TO FORGE AS A WAY OF HEALING."

Johnson uses a chisel and hammer to etch markings into the blade that will later become part of the design.



The blade is dipped in water to temper it. This rapidly cools the metal, hardening the spike and strengthening the blade.



At this point in the process, details can be added to the blade and the shaft to add a design to the blade.



The rough shape of the blade and the etch marks that Johnson has created in the blade with the chisel and hammer can be seen clearly.



The blade is heated once more—this time, to create the spike twist and design.

For this design, the spike will have a cube shape with a twist. Johnson marks out the sides of the cube with a hammer and chisel.

This will make the twist easier to create without distorting the whole end of the spike.



forges. Now, anyone can have the capability to blacksmith in their shop or garage.

Special Forces veteran Magnus Johnson uses metal art as a way of healing and to raise awareness for his nonprofit, Elder Heart—a 501(c)(3) organization located in Nashville, Indiana—as well as its project, Mission 22. Johnson founded Elder Heart in 2012.

This organization has since created many large works of art to bring to light the issues veterans are facing today. Once such piece is a 22-foot-tall leaf sculpture in Nashville, Indiana. It features 22 leaves to signify the 22 American veterans who are lost to suicide every day in America.

Elder Heart works to end veteran suicide in America while supporting veterans and their families across the country. It is currently installing a large-scale national memorial in Texas called *The War at Home*. It will be completed this year. This piece is planned to comprise 20 1-inch-thick steel plates, each of which stands more than 10 feet tall. It will feature cutouts of actual American men and women who have lost the battle with PTSD and TBI (traumatic



◀ Johnson uses a vise to clamp the axe head so the twist can be made in the spike.



◀ For this step, the entire axe head should not be heated—only the portion of the spike that is going to be twisted. This is best done with an acetylene torch so the exact section to heat can be pinpointed.



◀ The spike is now black from the heating and cooling processes. Johnson grinds it down a bit so he can see how his work is progressing.

"IN THE EARLY 2000S, BLACKSMITHING IN THE UNITED STATES STARTED TO GAIN POPULARITY AGAIN, AND FORGES POPPED UP ALL OVER THE COUNTRY."

brain injury) here, at home, and have taken their own lives. This work of art will honor them and their families for the sacrifices they have made on behalf of our nation.

The Mission 22 project works with veterans and civilians across the country to create a hub of resources and support in every community in America. Ambassadors of Mission 22 organize events every month to show support and raise awareness for the vast amount of veterans we are losing to suicide each year. These events raise funds that allow Mission 22 to support veterans and help them receive treatment for PTSD and TBI.

Elder Heart has a metal shop at the Warriors Heart treatment center for veterans that is located in Bandera, Texas. Veterans come to the shop during their treatment and learn how to forge as a way of healing.

What follows are detailed, step-by-step instructions for forging your own axe the way they are created at the Elder Heart shop. **ASG**



◀ The general shape has been created, and the blade is ready to be formed.



◀ Johnson uses a soapstone to draw the sections he would like to cut off. This creates the ability to make a sharp angle on the blade.



◀ He uses a torch to cut off the sections of the blade that he has just marked off with the soapstone.



◀ Now that the shape has been created, Johnson uses a grinder to file down the edges and sharpen the blade.



◀ The blade is fully formed. Now comes the fun part: adding those final touches to create the axe. By adding extreme heat in localized zones, Johnson can actually change the color of the blade. This technique will add a blue patina to the blade.



◀ The blade is heated once more, and a hole is drilled through the center of the spike with a drill press. This hole will be where the point of the handle is set.



◀ A rough wooden handle is torched in various spots to create an aged look. The design is only limited by your imagination.



◀ The handle is rubbed with linseed oil to create a weathered and smooth finish.



◀ The handle is set inside the blade with a rubber mallet, which protects the handle from being dented.



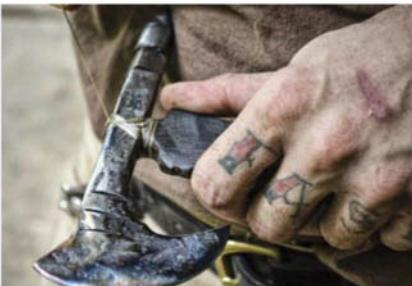
◀ The handle is fully set into the hole on the axe head.



◀ A small metal wedge is pounded into the wood of the handle through the hole on the axe head. This puts pressure on the wood and makes a tight seal, securing the head of the axe to the handle.



◀ A grinder is used to cut off the top of the wedge and make it flush with the top of the handle.



◀ Sinew is used to create a stronger lashing and to add a finished look to the piece.

◀ Below, the finished axe

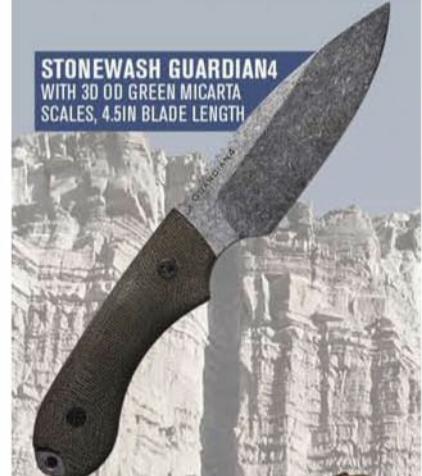


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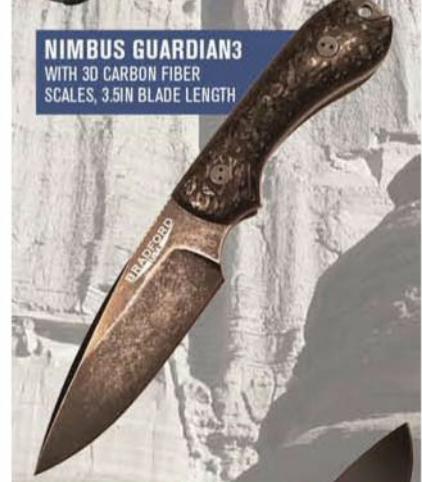
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WITH 3D OD GREEN MICARTA
SCALES, 4.5IN BLADE LENGTH



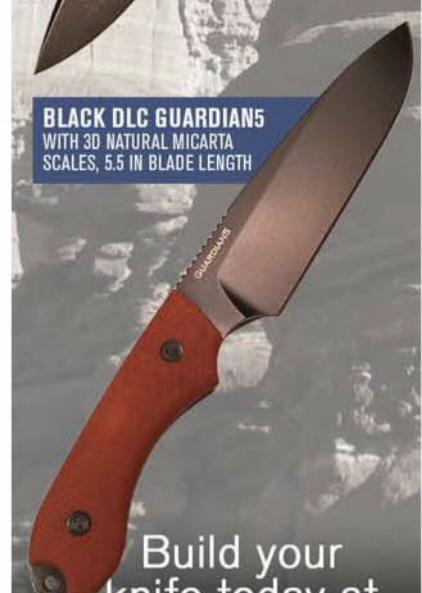
NIMBUS GUARDIAN3

WITH 3D CARBON FIBER
SCALES, 3.5IN BLADE LENGTH



BLACK DLC GUARDIAN5

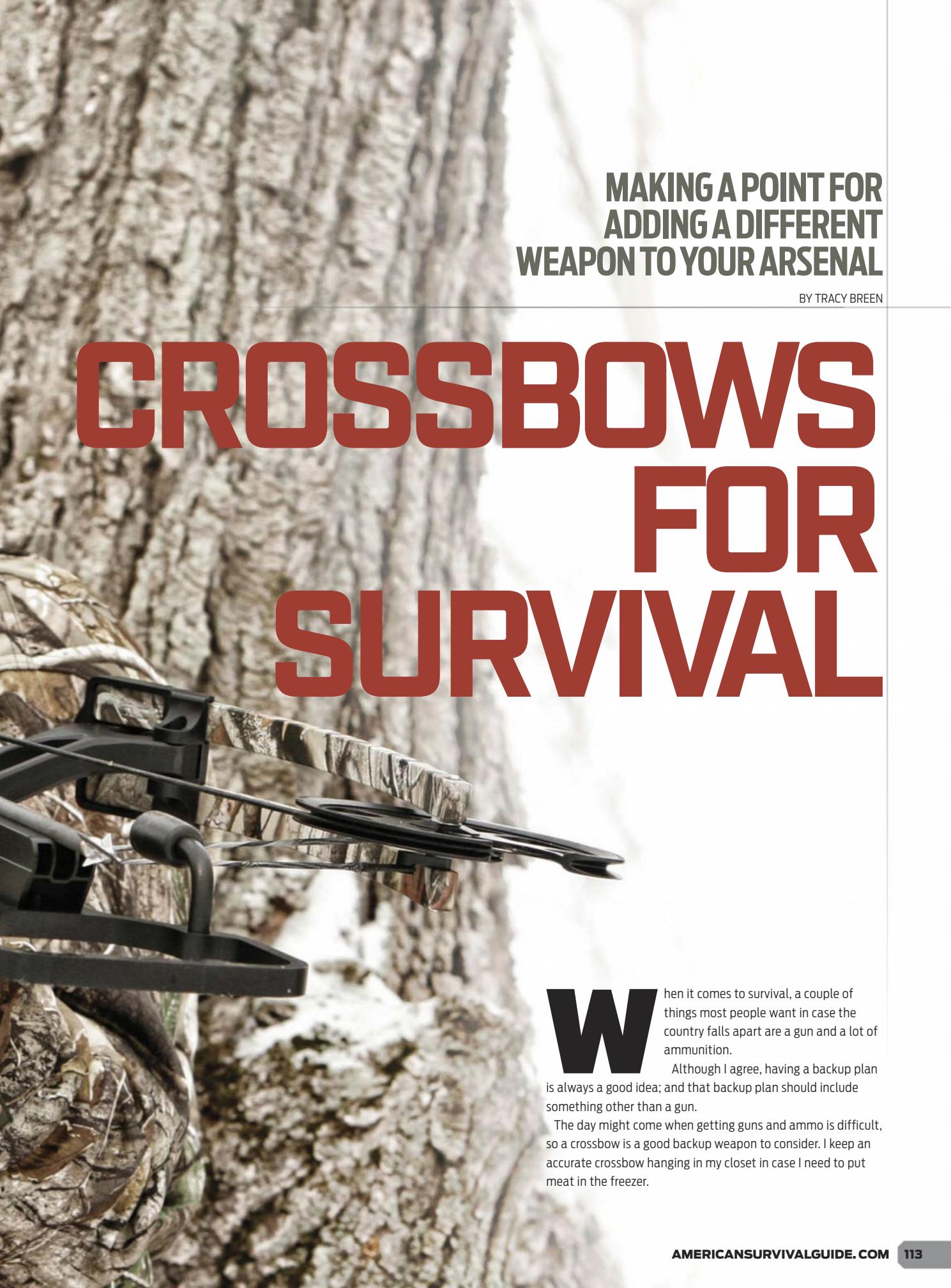
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MAKING A POINT FOR
ADDING A DIFFERENT
WEAPON TO YOUR ARSENAL

BY TRACY BREEN

CROSSBOWS FOR SURVIVAL

When it comes to survival, a couple of things most people want in case the country falls apart are a gun and a lot of ammunition.

Although I agree, having a backup plan is always a good idea; and that backup plan should include something other than a gun.

The day might come when getting guns and ammo is difficult, so a crossbow is a good backup weapon to consider. I keep an accurate crossbow hanging in my closet in case I need to put meat in the freezer.

One of the main reasons to consider purchasing a crossbow is because its effective range is nearly double that of a vertical bow in capable hands. The longer the effective range, the better the odds are for success. Most high-end crossbows can be shot accurately at 40 or 50 yards and beyond. I know guys who regularly put bolts in the same hole of a target at 70 and 80 yards with a crossbow, and a 40-yard shot is extremely doable under normal field conditions.

To be that accurate, a good crossbow is needed. And because it is now legal to hunt with crossbows in most states, more companies are producing them.

FIND YOUR PERFECT CROSSBOW

The problem is that many crossbows are inexpensive and poorly manufactured. When shopping for a crossbow, avoid going to a big-box store. Visit an archery pro shop at which you can test several crossbow brands. (A couple of my favorite brands are TenPoint and Scorpypd Crossbows.)

When testing out crossbows, pay attention to how easy the crossbow is to cock. Notice how quiet it is. Many crossbows are fast, but few of them are quiet. A crossbow that sounds like a rifle going off is more likely to spook game long before the bolt hits its ribcage. A crossbow that is relatively

"THE DAY MIGHT COME WHEN GETTING GUNS AND AMMO IS DIFFICULT, SO A CROSSBOW IS A GOOD BACKUP WEAPON TO CONSIDER."



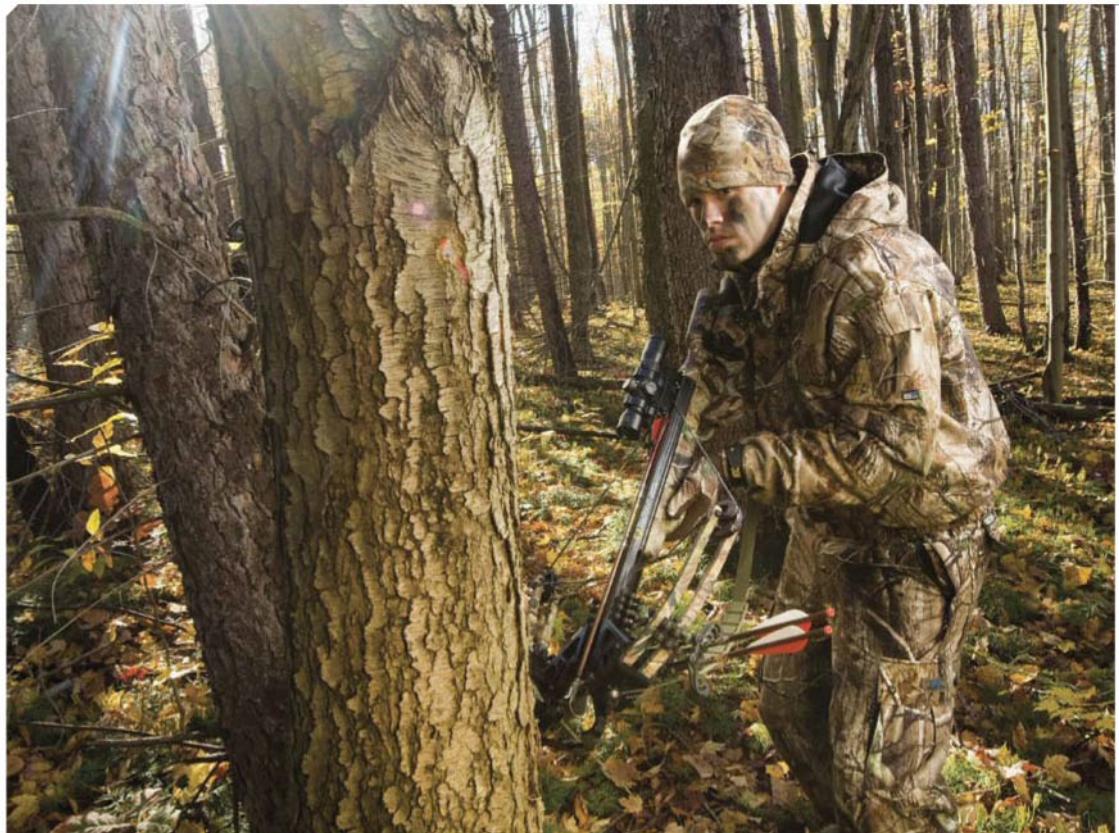
◀ *Left:* A good scope can improve your chances of hitting your target.

quiet will be more fun to shoot and might help fill that freezer.

When shopping, avoid getting caught up in the speed craze. Many companies make crossbows that will shoot a bolt faster than 400 fps. Many of these crossbows have extreme draw weights, are difficult to cock, have stiff trigger pull and are noisy. I suggest buying a crossbow that shoots between 330 and 390 fps. Many of these are great to shoot and will bring down any big-game animal.

◀ *Below:* Even simple versions of this weapon can provide advantages over other options.





Once you learn how to set up and shoot a crossbow, you'll agree that it makes a great weapon.

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EQUIPMENT FOR EVALUATION:

- 1 TenPoint Titan SS Crossbow
- 2 Scorpyd Orion Extreme
- 3 Morrell Yellow Jacket
- 4 Grim Reaper Carni-Four
- 5 Rage Crossbow Xtreme
- 6 Trijicon ACOG

SCOPE OUT THE SCOPES AND BROADHEADS

A good scope is the next thing to consider. In most cases, crossbows are purchased as a kit and come with a decent scope. Consider buying a high-end scope for driving tacks at long ranges. Trijicon, Hawke and a few others make scopes designed for crossbows that are super accurate. They will help shooters

become more accurate.

Broadheads are always a hot topic when discussing crossbows. Many of today's mechanical broadheads can't handle the extreme speeds that crossbows put out. As a result, the blades open early, causing erratic arrow flight and poor accuracy. To solve this problem, many broadhead manufacturers make mechanical broadheads designed for crossbows. For instance, Grim Reaper, Rage and others offer great options.

The advantage of using a mechanical head is that when the blades open, they create a devastating wound and blood trail. The down side is that they sometimes fail, so



CROSSBOW BUYER'S GUIDE

Trijicon ACOG

Trijicon is known for making high-end rifle and tactical scopes that are deadly accurate. This manufacturer also offers an ACOG crossbow scope.

This lightweight scope weighs 5.6 ounces, so crossbow users won't even notice the extra weight on their crossbows. It has a built-in range-finding reticle and Bolt Drop compensated reticle. The scope features Trijicon's one-of-a-kind, fiber-optic/tritium aiming system that is extra-bright but doesn't require batteries.

This 3x24 crossbow scope is perfect for the hardcore crossbow hunter.

MSRP: \$1,093

www.Trijicon.com

TenPoint Titan SS Crossbow

TenPoint Crossbows has a great, new crossbow called the Titan SS. This crossbow has 175-pound draw weight, lets a bolt fly at 340 fps and tips the scales at 6.7 pounds. It comes with an adjustable Fusion stock.

This compact powerhouse comes with a scope, quiver, bolts and everything needed to start hunting.

MSRP: \$599

www.TenPointCrossbows.com

Morrell Yellow Jacket

The Morrell Targets Yellow Jacket crossbow broadhead target will stop broadhead-tipped bolts in their tracks. It is built with multilayered density foam, is 100 percent weatherproof and weighs 18 pounds.

MSRP: \$75.99

www.MorrellTargets.com



Rage Crossbow Xtreme

Rage Broadheads' Crossbow Xtreme is a new head designed for crossbow hunters who want an extremely large entry wound when they pull the trigger. This amazing head opens up to a devastating 2.3-inch wound, which will make for a short recovery. The Crossbow Xtreme comes with ferrule alignment technology so the broadhead fits the bolt perfectly every time it is screwed on. In addition, the head comes with the famous shock collar, which ensures the blades stay contained until impact. This two-blade broadhead comes with .035-inch-thick blades and is available in 100 grains.

MSRP: \$49.99

www.RageBroadheads.com

Scorpyd Orion Extreme

Scorpyd Crossbows has a unique reverse-draw crossbow called the Orion. The reverse limbs result in an extremely long power stroke that produces amazing speeds with less draw weight. The Orion 135 has a 135-pound draw weight and shoots a bolt up to 390 fps. This crossbow is extremely compact and weighs only 7.5 pounds. It comes with a 1911 pistol grip stock so accessories can be added to the crossbow.

MSRP: \$1,499

www.Scorpyd.com

Grim Reaper Carni-Four

New from Grim Reaper is the Carni-Four broadhead, an amazing, four-blade mechanical broadhead that can handle the speeds crossbows deliver.

This broadhead is a 1 1/2 x 1 1/4-inch mechanical head with staggered blade technology that will quickly bring down big-game animals. It offers 2 3/4 inches of cutting surface.

MSRP: \$44.99

www.GrimReaperBroadheads.com

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“... CROSSBOWS CAN BE USED TO SECURE PROTEIN WHERE GUN HUNTING ISN’T PERMITTED.”

consider using a fixed-blade broadhead such as a Wac’Em or Grim Reaper Hades. When shopping for a fixed-blade head, always look for something with a small cutting diameter. Large, fixed-blade broadheads often plane when being shot at extreme speeds.

It is important to note that although broadheads are expensive, it is best to buy two or three different kinds and experiment with them before making a final decision. The goal is to be able to shoot tight groups. Sometimes, a certain broadhead flies better than another type out of a given crossbow.

BOLTS AND ARROWS

What carries the broadhead to the target is a bolt or arrow. Generally, bolts are shorter and heavier than arrows, but there are no definitive standards, and manufacturers use both terms. Regardless of its name, using a high-quality bolt is necessary.

Most crossbow packages come with bolts, but they are often not the best quality. Purchase bolts with stiff enough spines for the crossbow. If the crossbow is fast, the bolt needs to be stiff enough to handle the speed. Crossbow users should buy the best bolt they can afford. The more money you are willing to spend, the tighter the weight and straightness tolerances will be.

SPIN-TESTING

Also be aware that many people fail when they assume all the bolts in their pack of six are exactly the same. Although they appear identical, the odds of them being exactly the same are very slim. To create consistent downrange accuracy, each bolt should be weighed and spin-tested.

When I am hunting, I want each bolt in my quiver to fly the same. In order for that to happen, they must weigh the same. I weigh each bolt on a grain scale and then spin-test it on a Pine Ridge Arrow Inspector.

Although I want every bolt to weigh the same, the best I can hope for if I am buying



► *Above:* Even the best crossbow makes no guarantees. Remember to dress for success if you’re serious about hunting.



► *Right:* With good equipment, proper care and plenty of practice, you can depend on tight groups.

bolts from a big-box store is about 5 grains of difference. After weighing my bolts, if any of them are light or heavy, I screw in a broadhead that compensates for this difference. Broadheads never weigh the same, so matching a broadhead a few grains heavy with a bolt a few grains light is the best way to end up with bolts that weigh about the same.

If you haven’t invested in a grain scale, buy a spin-tester you can spin arrows on. With the Pine Ridge Arrow Inspector, I can quickly tell if one of my bolts is wobbly by spinning it. If the bolt is wobbly, I typically practice with that bolt and don’t take it into the woods. All of this seems like a lot of work, but it is necessary in order to have an accurate crossbow that drives tack.



GETTY IMAGES/COMBY PILCAS



IMAGES/COMBY DMITRY NAUMOV

PRACTICE FOR ACCURACY

Have fun with your crossbow. The only way to ensure your accuracy is by practicing with a crossbow. Consider buying a few small-game broadheads designed to kill rabbits, squirrels and other critters. These animals are fun to hunt, plentiful and can help fill your freezer.

Regularly hunting small game with

a crossbow will make you a better big-game hunter. Small-game broadheads are designed to cause lots of trauma without ruining the broadhead or bolt. As a result, the same bolt can be used repeatedly without spending too much money on replacement broadheads and bolts.

Learning how to set up and shoot a crossbow can seem intimidating, but after it is set up—and the user knows how to use it—it makes a great weapon.

And, because bowhunting is often allowed in the suburbs, crossbows can be used to secure protein where gun hunting isn't permitted.

Get a quality crossbow, and you will always have a good backup plan. **ASG**

◀ Brace height, also called "fistmele," is measured from the place where your hand meets the riser to the bowstring.

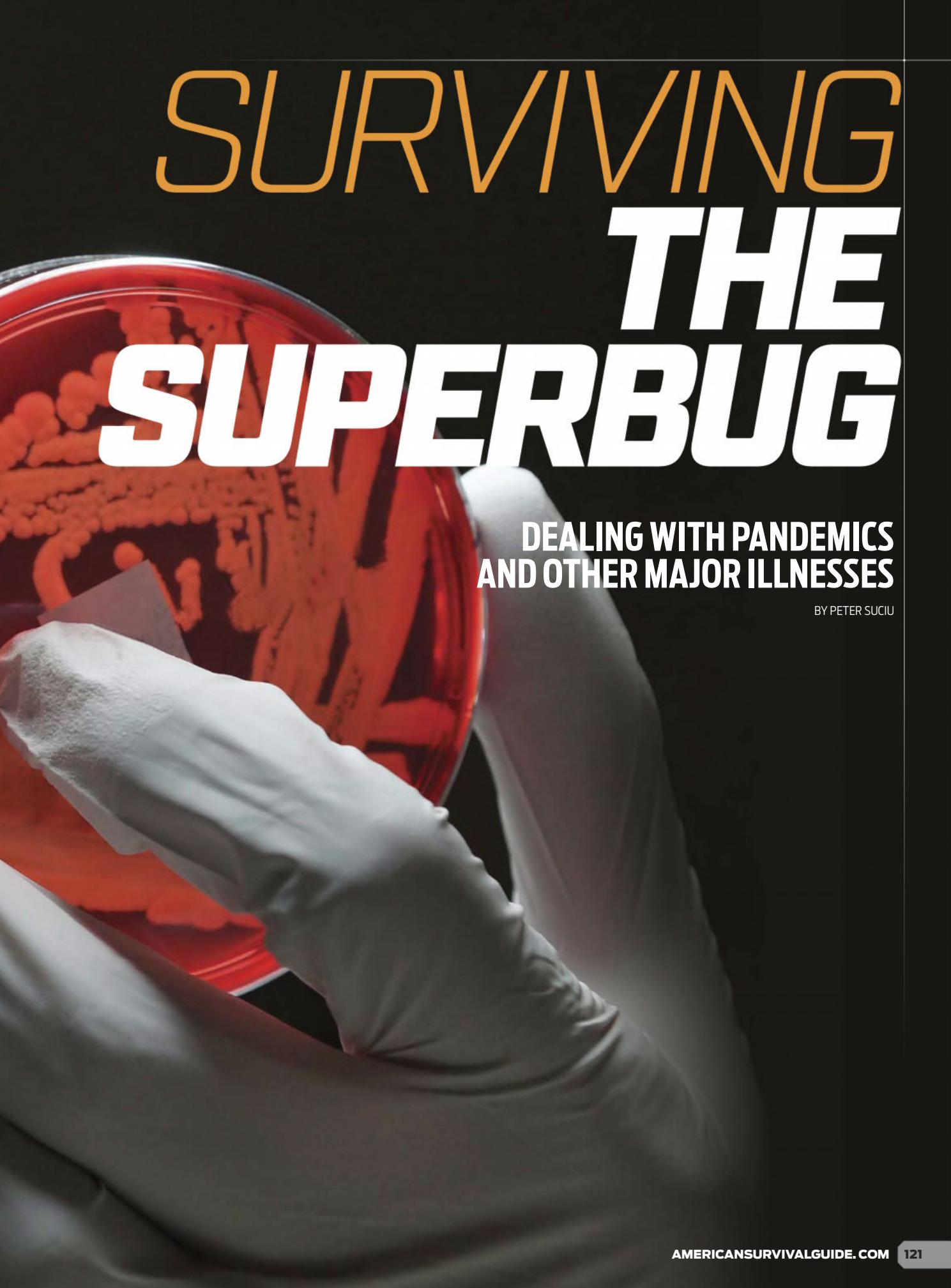
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SURVIVING THE SUPERBUG

A close-up photograph of a person's gloved hand holding a red petri dish. The dish contains a dense, red bacterial culture. The background is dark, making the red color stand out. The hand is wearing a white glove, and the person is wearing a dark long-sleeved shirt.

DEALING WITH PANDEMICS
AND OTHER MAJOR ILLNESSES

BY PETER SUCIU

“... ABOUT 2 MILLION PEOPLE GET SOME FORM OF SUPERBUG EVERY YEAR, AND ABOUT 23,000 DIE ... ”

“S

uperbugs” are on the rise. These could potentially be one of the biggest dangers facing mankind in the 21st century.

According to recent research, an estimated 5,000 people die every year due to infections picked up in hospitals. Many of these deaths are due to methicillin-resistant *staphylococcus aureus* (MRSA), which is now the most common superbug found in hospitals. Reports from the Centers for Disease Control (CDC) reflect that about 2 million people get some form of superbug every year, and about 23,000 die from one each year.

What might come as a shock is that in the 1940s, *staphylococcus aureus* could largely be controlled by penicillin; roughly 95 percent of it was contained by antibiotics. Today, that number is down to just 10 percent. The reason for this downward shift is that *staphylococcus aureus* has become methicillin resistant—and thus, a superbug.

“When you don’t have a way to treat it, that is when it becomes a superbug,” warned Dr. Barbara Murray, spokesperson for the Infectious Diseases Society of America.



◀ People wearing protective medical masks during a pandemic of contagious flu

In essence, the worry is that antibiotics are becoming ineffective. This is a major reason for concern, because antibiotics remain the foundation of modern medicine. And these antibiotics are used for everything from cancer treatment to organ transplant to childbirth—all of which rely on it to prevent infections.

The issue is that in a way, antibiotics have actually become too much of a good thing.



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STAY HEALTHY



Children today are taught to wash their hands with warm to hot water for up to two minutes. Unfortunately, most adults barely even rinse their hands. Good hygiene isn't just for kids; and avoiding illness begins with the basics.

Throughout the year, it is a good idea to wash one's hands often, but especially before preparing food, eating, putting in or taking out contact lenses, or even applying makeup, sun screen or lotions.

Our hands come in contact with all sorts of nasty germs throughout the day, and by washing them regularly, it reduces spreading those germs to the face, nose or mouth.

However, soaps with antibiotics should be avoided, because these only serve to help the "bad" bacteria become more resistant to antibiotics. Moreover, these soaps can provide a false sense of security to users. Instead, hands should be cleaned with good, old soap and water.

If you are on the go and soap and water aren't available, those quick wipes or other hand sanitizers that feature alcohol are very good alternatives. Alcohol might not remove all the dirt on one's hands, but it will kill the germs.

During cold and flu season or anytime there is a breakout of a major illness, the best thing to do is to avoid large crowds. Reducing the need to be around people can help you stay safe and healthy.

Flu pandemics, as well as more serious breakouts, can last for months or longer, so you should stock up on the basics, just as you would for any emergency.

This means having an adequate supply of food, water and prescription medicines. If you can get your meds resupplied by mail, consider that—because many sick people might head to the nearest pharmacy, which often isn't cleaned as adequately as necessary and can be a "ground zero" for the spread of illness.

Other must-have items include over-the-counter health supplies such as thermometers, facemasks, soap and hand sanitizers.

Additional Checklist Items:

- ◀ Up-to-date phone numbers and e-mail addresses of loved ones. Make a hard-copy backup in case of power or cellular outages.
- ◀ Check your employer's policy on working from home during a flu pandemic or other health emergency.
- ◀ Find out school policies regarding how it will plan for a major health emergency: Will the school close, and can students study from home?
- ◀ What is your community's plan for a flu pandemic or other health emergency?
- ◀ Plan to stay home for at least 10 days when you are sick with a pandemic flu to limit its spread.



OVER-THE-COUNTER PRODUCTS

Staphylococcus aureus has become resistant to penicillin and other antibiotics, in part because antibiotics have become such a part of modern life, such as in antibacterial soaps. Products like these have been marketed as a way to keep users from getting sick, because they contain certain chemical ingredients (including triclosan) that are meant to reduce or prevent bacterial contamination. That particular drug was once used strictly in a hospital setting, but since the 1990s, it has become an ingredient in hand gels, cutting boards, mattress pads and other products as a way to keep users safe.



This sounds like a solid move, but, in fact, the U.S. Food and Drug Administration has warned against using such soaps and other products.

"There currently is no evidence that over-the-counter antibacterial soap products are more effective at preventing illness than washing with plain—non-antibacterial—soap and water," an FDA spokesperson said via an e-mail. "Moreover, antibacterial soap products contain chemical ingredients, such as triclosan and triclocarban, that might carry unnecessary risks, given that their benefits are unproven."

In fact, putting an antibacterial or other antibiotics in everyday products only encourages the bacteria to fight back.

"The issue is that antibiotic resistance is something that occurs naturally already," explained Dr. Amesh Adalja, an infectious-disease specialist and a senior associate at the University of Pittsburgh Medical Center's Center for Health Security. "Using antibiotics makes things worse, because the bacteria are fighting this war to resist the natural antibiotics."

The other danger of superbugs is one of greed.



"... THE WORRY IS THAT ANTIBIOTICS ARE BECOMING INEFFECTIVE."

"Part of the problem was that the pharmaceutical industry has not seen it as profitable to develop new antibiotics," added Dr. Murray. "There was a lull for a decade."

FIGHTING THE SUPERBUG

Too much reliance on antibiotics has been just part of the problem. While certain bacteria have mutated as they have become accustomed to antibiotic drugs, another worry is that some strains of *staphylococcus aureus* have simply been resistant to antibiotics; this strain has

◀ Dr. Patrick McGann and a colleague at work tracing the MCR-1 antibiotic-resistant gene in their lab at Walter Reed annex in Silver Spring, Maryland.

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HISTORY OF MODERN PANDEMICS



Zika

The Zika virus has been in the news this year, despite the fact that those who contract Zika virus disease often have only mild symptoms that last for just several days to a week. The disease, which is spread via mosquitoes, is rarely so serious that those infected need to go to the hospital, and very few people actually die from it.

On the other hand, it is more serious because many people don't realize they are infected. This could easily allow it to reach a pandemic stage.

The greater issue with Zika is that if infection occurs during pregnancy, it can cause a serious birth defect known as microcephaly, as well as other severe fetal brain defects.

This particular disease is not new. It was first discovered in 1947 and named for Uganda's Zika Forest. The first human cases of the disease were detected in 1952, and outbreaks have occurred in tropical regions of Africa, Southeast Asia and the Pacific. More recently, the disease has spread to Brazil.

In February, the World Health Organization

declared the virus to be a Public Health Emergency of International Concern (PHEIC).

Zika is just one of several modern outbreaks that have the medical community concerned. However, throughout history, there have been much more serious pandemics and outbreaks. One, the Bubonic Plague (also known as the "Black Death"), killed millions and nearly destroyed Western civilization.

Spanish Flu

One of the most recent deadly outbreaks occurred less than a century ago—the 1918 Spanish Flu pandemic, which likely spread as a result of World War I and movements of people around the globe.

It was the first pandemic involving the H1N1 influenza virus, and it infected 500 million people worldwide, reaching even remote Pacific islands. It was responsible for the death of 50 to 100 million people—roughly 3 to 5 percent of the world's population. Despite its name, it didn't originate in Spain, and theories vary as to its actual source.

Regardless of its origins, the close proximity of

men traveling around the world resulted in the quick spread and transmission of the Spanish Flu. As many as 25 million people died from it in the first 25 weeks.

Influenza A H1N1

The same strain of flu that killed millions between 1918 and 1920 spread globally in 2010 and was responsible for around 17,000 deaths. The World Health Organization declared the pandemic over in August 2010, but this brief outbreak served as a reminder that a major flu outbreak could return ... with a serious vengeance.

Smallpox

While largely eradicated today, smallpox is believed to have killed as many as 500 million people during the 20th century, and isolated cases still pop up. In fact, one major concern is that this highly contagious disease could see a breakout because samples remain in research laboratories for study.



◀ Below: During cold and flu season or anytime there is a breakout of a major illness, the best thing to do is avoid large crowds. Reducing the need to be around people can help you stay safe and healthy.

➤ Above, left and right: Our hands come in contact with all sorts of nasty germs throughout the day. Washing them regularly reduces spreading those germs to the face, nose and/or mouth.

“...PUTTING AN ANTIBACTERIAL OR OTHER ANTIBIOTICS IN EVERYDAY PRODUCTS ONLY ENCOURAGES THE BACTERIA TO FIGHT BACK.”



GETTY IMAGES/CHRISTOPHER JORDAN

"THE SAD TRUTH IS THAT NO AMOUNT OF PREPARATION MIGHT BE ENOUGH WHEN IT COMES TO STOPPING THE SUPERBUG."

prospered as part of the natural evolutionary process through which the strong survive.

"The truth is that superbugs can typically be harmless for most people," explained Dr. Murray. "The danger is that a sick patient in the hospital is more susceptible to an infection, and modern antibiotics can't treat it."

According to the CDC, a review of 2011 data showed that of 722,000 healthcare-associated infections occurring in U.S. acute care hospitals, about 75,000 patients died during their hospitalizations.

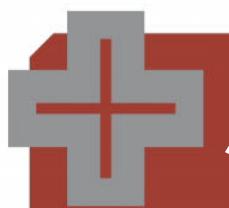
PRECAUTIONARY STEPS

Basic precautions can help to some extent. If there is an outbreak of a particular strain of superbug (or other pandemic disease), the key things to do are: Limit contact with others, stay at least 6 feet away from people when you do go out, practice good hygiene, and avoid hospitals (if at all possible), which are breeding grounds for MRSA and other infectious diseases.

"To avoid superbugs is about avoiding those places where they thrive, like hospitals," added Dr. Adalja. "Of course, people need to go to hospitals when they are really sick, and healthcare professionals need to practice sterile control so that they don't spread illness to patients."

The sad truth is that no amount of preparation might be enough when it comes to stopping the superbug.

"Overall, it is really impossible to avoid bacteria," Dr. Adalja warned. "What we need to do is to treat antibiotics as a precious resource and preserve them for those times when we really need them. The alternatives are to utilize vaccines that are targeted like antibody treatments. That can allow us to preserve antibiotics for when we need them." **ASG**



SOURCES & FURTHER READING

1 FLU

WWW.FLU.GOV/PLANNING-PREPAREDNESS/COMMUNITY/PLANNOW.PDF

2 ANTIBACTERIAL SOAP

WWW.FDA.GOV/FORCONSUMERS/CONSUMERUPDATES/UCM378393.HTM

3 ZIKA

WWW.CDC.GOV/ZIKA/ABOUT/INDEX

4 CURRENT PANDEMICS

WWW.NEWS-MEDICAL.NET/HEALTH/CURRENT-PANDEMICS.ASPX

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LAST WORDS

SURVIVING SURVIVAL PREPARATIONS

The reality behind the popular phrase, "Necessity is the mother of invention," is central to the level of success achieved by someone faced with a survival situation. Whether it's converting a couple of plastic buckets into a water filter or turning an abandoned school bus into a new home, addressing needs with innovation and creativity can make the difference between life and death.

It's important to first determine the difference between "necessities" and "luxuries," especially in the context of the anticipated environment. If you're like me, less than 10 percent of all that stuff in your house comprises necessities. All the rest is for comfort and convenience.

For example, are any electrical devices necessary for survival, certain medical conditions notwithstanding? Clearly, no. In this quick exercise, we've eliminated the need for a generator, which means we also don't have to deal with the expense, safe and secure storage, fuel supplies and replenishment, noise and exhaust control, maintenance know-how and parts, connections and all the devices that would be powered by the generator. Making this compromise eliminates this one item and greatly reduces complexity in your plan.

We don't have to look too deeply into human history or far from our cities to find examples of simpler living and the recent surge of interest in downsizing, simplifying and living off-grid—all testaments to our innate ability to return to our former ways.

Granted, life is much easier with the slew of household conveniences that have been invented over the last century or so, but they don't mean the difference between life and death. Once the realization sets in that life without the 70-inch HD TV in your living room is possible, it becomes easier to envision life without access to other luxuries we've come to take for granted.

The simplicity of life resulting from the abandonment of much of our accumulated stuff won't guarantee our survival in tough times. And, truth be told, new complexities will arise to take the place of many we leave behind.

The procurement of protein is one of the more-significant

challenges the prepper will face. While not complicated per se, it does require the mastery of numerous new skills for many who have not had to deal with the direct acquisition and processing of fish and game. New necessities of harvesting and preserving food will lead to inventive solutions, many of which are available already—either rediscovered from times gone by or created by innovative and resourceful tinkerers.

Ultimately, whether you thrive in a bad situation is up to you. Just know that the gray matter behind your eyes is capable of helping you see the problem and overcome its challenges. Educate yourself, invest in your gear and provisions, stay informed about threats—and, above all, focus on your plan and stay positive about your capabilities. **ASG**



GETTY IMAGES; COWBY/CULTURAL RIM/EXCLUSIVE/TOM LINDBOE

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